Pioneer *sound.vision.soul*

DVD Recorder

DVR-7000

Operating Instructions

RW
COMPATIBLE

IMPORTANT

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance. **H002_En**

Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

This product complies with the Low Voltage Directive (73/23/EEC, amended by 93/68/EEC), EMC Directives (89/336/EEC, amended by 92/31/EEC and 93/68/EEC). **H015AEn**

CAUTION:
THE STANDBY/ON BUTTON IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION. THEREFORE INSTALL THE UNIT SUITABLE PLACES EASY TO DISCONNECT THE MAINS PLUG IN CASE OF THE ACCIDENT. THE MAINS PLUG OF UNIT SHOULD BE UNPLUGGED FROM THE WALL SOCKET WHEN LEFT UNUSED FOR A LONG PERIOD OF TIME. **H017BEn**

VENTILATION: When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 10cm at top, 10cm at rear, and 10cm at each side).

WARNING: Slot and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, to prevent fire hazard, the openings should never be blocked and covered with items, such as newspapers, table-cloths, curtains, etc. Also do not put the apparatus on the thick carpet, bed, sofa, or fabric having a thick pile.

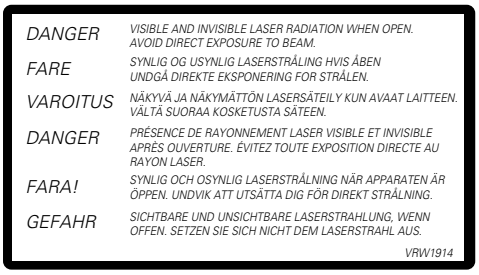
WARNING: THE APPARATUS IS NOT WATERPROOFS, TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE AND DO NOT PUT ANY WATER SOURCE NEAR THIS APPARATUS, SUCH AS VASE, FLOWER POT, COSMETICS CONTAINER AND MEDICINE BOTTLE ETC. **H001AEn**

CAUTION
This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product.
Refer all servicing to qualified personnel.

The following caution label appears on your unit.

Location: rear of the unit

H018A_En


DANGER
VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
FARE
SYNLIG OG USYNLIG LASERSTRÅLING HVIS ÅBEN UNDGÅ DIREKTE EKSPONERING FOR STRÅLEN.
VAROITUS
NÄKYVÄ JA NÄKYMÄTTÖN LASERSÄTEILY KUN AVAAT LAITTEEN. VÄLTÄ SUORAA KOSKETUSTA SÄTEEN.
DANGER
PRÉSENCE DE RAYONNEMENT LASER VISIBLE ET INVISIBLE APRÈS OUVERTURE. ÉVITEZ TOUTE EXPOSITION DIRECTE AU RAYON LASER.
FARA!
SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR APPARATEN ÄR ÖPPEN. UNDVIK ATT UTSÄTTA DIG FÖR DIREKT STRÅLNING.
GEFAHR
SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN OFFEN. SETZEN SIE SICH NICHT DEM LASERSTRAHL AUS.
VRW1914

WARNING: BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY. THE VOLTAGE OF THE AVAILABLE POWER SUPPULY DIFFERS ACCORDING TO COUNTRY OR REGION, BE SURE THAT THE POWER SUPPLY VOLTAGE OF THE AREA WHERE THIS UNIT WILL BE USED MEETS THE REQUIRED VOLTAGE (E.G., 230V OR 120V) WRITTEN ON THE REAR PANEL. **H041 En**

WARNING: NO NAKED FLAME SOURCES, SUCH AS LIGHTED CANDLE, SHOULD BE PLACED ON THE APPARATUS. IF NAKED FLAME SOURCES ACCIDENTALLY FALL DOWN, FIRE SPREAD OVER THE APPARATUS THEN MAY CAUSE FIRE.

H044 En

Operating Environment H045 En

Operating environment temperature and humidity:
+5˚C – +35˚C (+41˚F – +95˚F); less than 85%RH (cooling vents not blocked)
Do not install in the following locations

- Location exposed to direct sunlight or strong artificial light
- Location exposed to high humidity, or poorly ventilated location

This product is for general household purposes. Any failure due to use for other than household purposes (such as long-term use for business purposes in a restaurant or use in a car or ship) and which requires repair will be charged for even during the warranty period. K041_En

POWER-CORD CAUTION S002 En

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

Information to User

Alteration or modifications carried out without appropriate authorization may invalidate the user's right to operate the equipment. H011 En

This product includes FontAvenue (R) fonts licenced by NEC Corporation. FontAvenue is a registered trademark of NEC Corporation

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

IMPORTANT

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code :

Blue : Neutral
Brown : Live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 5 A fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows ;
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

NOTE
After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost replacement fuse covers can be obtained from: your dealer.
Only 5 A fuses approved by B.S.I. or A.S.T.A to B.S. 1362 should be used. H005BEn

Contents

1 Before You Start

Features **6**
What's in the box **8**
Putting the batteries in the remote control 8
Using the remote control 8
Important information before you start **9**
How are DVD-R and DVD-RW discs different? 9
Can I play my recordable discs in a regular DVD player? 9
What are 'recording modes'? 9
Is editing a DVD like editing a video tape? 9
On-screen icons 10
Recordable discs 10
Playback-only discs 10
Titles, chapters and tracks 10
DVD-Video regions 10
DVD disc box information 11

2 Connecting Up

Rear panel connections **12**
Front panel connections **13**
Extra features for use with compatible TVs **13**
Direct TV recording 13
Channel preset download 13
EPG download 13
TV auto power on 13
Easy connections **14**
Using other types of audio/video output 15
Connecting using ordinary AV cables 15
Connecting using the S-Video output 15
Connecting using the component video output 15
Connecting to a cable box or satellite receiver **16**
Connecting an external decoder box **17**
Connecting to an AV amplifier **18**
Connecting other AV sources **19**
Connecting a VCR or analog camcorder 19
Connecting DV equipment 19
Plugging in **19**

3 Controls and Displays

Front panel **20**
Display **21**
Remote control **22**

4 Getting Started

Switching on **24**
Using the on-screen displays **24**
Setting up: Auto-tuning channels **24**
Downloading channels from your TV **25**
Setting up: Channel skip, manual tuning and naming stations **26**
Swapping station presets **27**
Setting up: Assigning guide channels for VIDEO Plus+® programming system **28**
Setting up: Setting the clock **28**
Auto clock setting 28
Manual clock setting 29
Setting up: TV aspect ratio **30**
Setting up: Digital audio output **31**
Other settings you can make **32**
Setting up the remote to control your TV **32**
Using the built-in TV tuner **33**
Changing TV channels 33
Changing audio channels 34
Playing discs **34**
Basic playback controls 35
Using DVD-Video disc menus 36
Using Video CD PBC menus 36
Navigating discs **37**
Using the remote control 37
Using the front panel controls 37
Scanning discs **38**
Playing in slow motion **38**
Frame advance/frame reverse **39**
Using the remote control 39
Using the front panel controls 39
About DVD recording **40**
Disc types and recording formats, modes and settings . . 40
Recording in VR mode 40
Recording in Video mode 41
Recording TV audio channels 42
Restrictions on video recording 42
What is 'CPRM'? 42
Recording equipment and copyright 42
Initializing a disc **43**
Setting up for VR mode recording **43**
Setting up for Video mode recording **44**
Setting the recording mode from the front panel **44**
Adjusting the audio recording level **44**
Basic recording from the TV **45**
One touch recording **46**
Playing your recordings on other DVD players **46**
Finalizing a disc 46
Displaying disc information on-screen **47**

5 Other Playback Features

Introduction **50**
Finding what you want on a disc **50**
Switching subtitles **51**
Switching audio soundtrack **51**
Switching audio channel **52**
Switching camera angles **52**
Using repeat play **53**
Looping a section of a disc 53
Making a program list **54**

6 Timer Recording

Introduction **56**
Standard timer recording **56**
Checking timer recording details 58
Canceling a timer recording 58
Stopping a timer recording in progress 59
Extending a timer recording in progress 59
Timer recording troubleshooting **59**
Automatic timer recording using the VIDEO Plus+® programming system **60**
VIDEO Plus+ programming with the power off 61
Disc timer recording **62**
Setting up the disc for disc timer recording 62
Programming a disc timer recording 62
Using a disc with disc timer recording programs 63
Child lock **63**

7 Recording from an External Input

Recording from an external component **64**
Automatic recording from a satellite tuner **64**

Recording from a DV camcorder/deck ... 65
Recording from the DV output ... 66
What is DV? ... 67
DV-related messages ... 67
Troubleshooting ... 67

8 Editing Using the Discnavi

Original and Playlist editing ... 68
Titles, chapters and parts ... 68
Adding chapter markers ... 68
Using the Discnavi ... 69
Changing the Discnavi title thumbnail ... 69
Playing a chapter or title ... 70
Naming a title ... 70
Making a new Playlist title ... 71
Adding a part to the Playlist ... 72
Erasing a part from the Original or Playlist ... 73
Erasing an Original or Playlist title/chapter ... 74
Erasing all Original titles ... 74
Moving a Playlist chapter or title ... 75
Protecting/unprotecting an Original title ... 75
Copying a Playlist title ... 76
Combining two chapters into one ... 76
Undoing the last edit ... 77

9 Using the Title List Screen

What you can do from the Title List menu ... 78
Playing a title ... 78
Naming a title ... 78
Erasing a Title ... 79

10 The Initial Setup Menu

Using the Initial Setup menu ... 80
Basic settings ... 80
Clock Setting ... 80
Optimized Rec ... 80
Direct TV Recording ... 81
Power Save ... 81
Tuner settings ... 81
Auto Channel Setting ... 81
Manual CH Setting ... 81
Channel Swapping ... 81
VIDEO Plus+ CH Setting ... 81
Video settings ... 82
TV Screen Size ... 82
Screen Size for Rec ... 82
Still Picture ... 82
Video In / Out settings ... 82
Component Video ... 82
AV1 Out ... 83
AV2/L1 Out ... 83
AV2/L1 In ... 83
NTSC on PAL TV ... 84
DV Link ... 84
Audio In settings ... 84
Tuner Audio ... 84
External Audio ... 84
Bilingual Recording ... 84
DV Input ... 85
Tuner Audio Level ... 85
Audio Out settings ... 85
Digital Out ... 85
Dolby Digital Out ... 85
DTS Out ... 85
96kHz PCM Out ... 85
MPEG Out ... 86
Audio DRC ... 86
Language settings ... 86
OSD Language ... 86
Audio Language ... 86
Subtitle Language ... 86
Auto Language ... 87
DVD Menu Language ... 87
Subtitle Display ... 87
Subtitle Off ... 88
Selecting 'Other' languages ... 88
Advanced settings ... 88
Parental Lock ... 88
Registering a new password and setting/changing the parental lock level ... 88
Changing your password ... 89
On Screen Display ... 90
Angle Indicator ... 90
Frame Search ... 90
Navi Mark ... 90
Start Rec on DVD-R ... 90
Chapter Interval ... 91
Remote Control Set ... 91

11 The Disc Setup Menu

Using the Disc Setup menu ... 92
Basic settings ... 92
Disc Timer Recording ... 92
Input Disc Name ... 92
Protect Disc ... 92
Initialize settings ... 93
VR Mode ... 93
Video Mode ... 93
Finalize settings ... 93
Finalize ... 93
Undo Finalize ... 93

12 The Video Adjust Menu

Using the Video Adjust menu ... 94
Setting the picture quality for TV and external inputs ... 94
Choosing a preset ... 94
Creating your own set ... 95
Setting the noise reduction for recording ... 95
Setting the input colour system ... 96
Setting the picture quality for disc playback ... 97
Choosing a preset ... 97
Creating your own set ... 97

13 Additional Information

On-screen displays and recorder displays ... 98
Handling discs ... 99
Storing discs ... 99
Discs to avoid ... 99
Cleaning the pickup lens ... 99
Problems with condensation ... 99
Hints on installation ... 100
Moving the recorder ... 100
Glossary ... 100
Language code list ... 104
Screen sizes and disc formats ... 105
Specifications ... 106
Resetting the recorder ... 108

Features

Playback

- **Cinema surround sound in your home**
  Connect the DVR-7000 to a Dolby Digital, DTS and/or MPEG-compatible amplifier/receiver to enjoy full surround sound effects from Dolby Digital and DTS DVD discs.

- **Find what you want to watch quickly and easily**
  Unlike video tape that needs to be wound to the correct place, you can jump right to the part of a DVD disc that you want to watch. Search for a point on a disc by title, chapter or time.

- **Discnavi (Disc Navigator) (VR mode)**
  The Discnavi makes editing and finding your way around a disc easy by displaying a still frame from each title (or chapter within a title) as a visual reminder of what the title (or chapter) is.

Recording

- **Program up to 8 timer recordings**
  You can program the recorder to record up to 8 programs, up to a month in advance, using the VIDEO Plus+* system for easy programming if you want. As well as single programs, you can specify daily or weekly recordings, too. This recorder is also compatible with VPS/PDC systems which ensure you don't miss the end of a timer recording, even if the broadcast is running late.

  ** VIDEO Plus+ and PlusCode are registered trademarks of Gemstar Development Corporation. The VIDEO Plus+ system is manufactured under licence from Gemstar Development Corporation.*

- **One-touch recording**
  Use one-touch recording to start recording immediately in 30 minute blocks. Each time you press the record button, the recording time is extended by another 30 minutes.

- **Disc timer recording (VR mode)**
  Instead of having a timer recording program stored in the recorder, you can program a disc with a timer recording so that when you load that disc, the timer automatically becomes active. This is great for recording a regular weekly show on a single disc. Just load the disc and the timer is set.

- **Optimized recording (VR mode)**
  Optimized recording adjusts the recording quality automatically if a timer recording will not fit onto a disc with the settings the user made. (Note that this feature cannot be used together with VPS/PDC.)

- **Picture quality adjustment features**
  During playback, you can adjust various picture quality settings to improve the picture. You can also adjust the recording picture quality. For example, if you want to make a DVD copy of an old video tape, you can optimize the picture quality before transferring it to disc.

- **Manual level recording (VR mode)**
  In addition to the standard mode, which gives you 2-hours of recording time on a disc, there is the manual mode which lets you trade off recording time for picture quality to suit your particular application. In all there are 32 recording levels.

- **Auto Recording from satellite receiver or other set top box**
  With a satellite receiver or other set top box connected to the **INPUT 2/AUTO REC** inputs of this recorder, you can start and stop recording automatically according to the timer settings of the set top box.

Video input/output

- **Connect a DV camcorder or other DV equipment**
  This recorder has a built-in DV (Digital Video) input/output jack for connection to a DV camcorder (or other DV equipment). This makes the DVR-7000 perfect for transfering DV camcorder footage to DVD for editing. You can also transfer DVD content from this recorder to other DV equipment.
  - There may be cases where some DV equipment cannot be connected properly.

Editing

- **Safe, non-destructive editing (VR mode)**
  When you edit a DVD-RW playlist, the actual content of the disc (the Original content) is not touched. The edited version (the Playlist content) just points to various parts of the Original content.
- **Chapter marking (VR mode)**
  You can easily add chapter markers anywhere in your recordings for easy editing.
- **Add and erase parts (VR mode)**
  'Part' here means a user-defined part of a title. You can add parts to the Playlist, or erase parts from Original or Playlist titles.

Compatibility

- **Play Video mode recordings on a regular DVD player (Video mode)**
  Discs recorded using the Video mode can be played back on regular DVD players, including computer DVD drives compatible with DVD-Video playback*.

** 'DVD-Video format' recording: The use of the DVD-Video format for recording on DVD-R and DVD-RW discs is referred to as recording in 'Video mode' on Pioneer's DVD recorders. Supporting playback of DVD-R/DVD-RW discs is optional for manufacturers of DVD playback equipment, and there is DVD-Video playback equipment that does not play DVD-R or DVD-RW discs recorded in the DVD-Video format.*

Note: finalization is required.

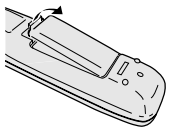
What's in the box

Thank you for buying this Pioneer product. Please confirm that the following accessories are in the box when you open it.

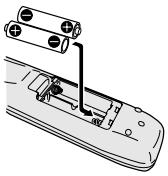
- Remote control
- AA/R6P dry cell batteries x2
- SCART cable
- Stereo audio cable (red/white)
- Video cable (yellow)
- RF antenna cable
- Power cable
- DVD-RW disc
- These operating instructions
- Warranty card

Putting the batteries in the remote control

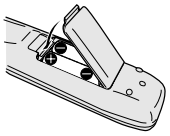
1 Open the battery compartment cover on the back of the remote control.



2 Insert two AA/R6P batteries into the battery compartment following the indications (⊕, ⊖) inside the compartment.



3 Close the cover.



Note

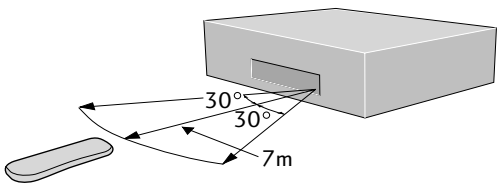
Incorrect use of batteries can result in hazards such as leakage and bursting. Please observe the following:

- Don't mix new and old batteries together.
- Don't use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Make sure that the plus and minus ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that isn't going to be used for a month or more.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

Using the remote control

Keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote and the remote sensor on the unit.
- Use within the operating range and angle, as shown.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the unit's remote sensor.
- Remote controllers for different devices can interfere with each other. Avoid using remotes for other equipment located close to this unit.
- Replace the batteries when you notice a fall off in the operating range of the remote.
- When the batteries run down or you change the batteries, the remote control mode and TV preset code are automatically reset. See **pages 32** and **91** to reset them.



- See **page 12** if you want to control this component from the remote sensor of another component.

Important information before you start

Please take a few minutes to read through this section before reading on through the manual.

How are DVD-R and DVD-RW discs different?

The essential difference between DVD-R and DVD-RW is that DVD-R is a record-once medium, while DVD-RW is a re-recordable/erasable medium. You can re-record/erase a DVD-RW disc approximately 1,000 times.

Can I play my recordable discs in a regular DVD player?

Generally, DVD-R discs and DVD-RW discs recorded in Video mode are playable in a regular DVD player*, but they must be 'finalized' first. This process fixes the contents of the disc to make them readable to other DVD players as DVD-Video discs.

** 'DVD-Video format' recording: The use of the DVD-Video format for recording on DVD-R and DVD-RW discs is referred to as recording in 'Video mode' on Pioneer's DVD recorders. Supporting playback of DVD-R/DVD-RW discs is optional for manufacturers of DVD playback equipment, and there is DVD-Video playback equipment that does not play DVD-R or DVD-RW discs recorded in the DVD-Video format. Note: finalization is required.*

Pioneer cannot guarantee that discs recorded using this recorder will play on other players.

DVD-RW discs recorded in VR (Video Recording) mode are playable in 'RW Compatible' players.

RW COMPATIBLE This indicates a product feature that is capable of playing DVD-RW discs recorded with Video Recording format.

This recorder supports the recording of 'copy once' broadcast programs using the CPRM copy protection system (see page 42) on CPRM compliant DVD-RW discs in VR mode. CPRM recordings can only be played on players that are specifically compatible with CPRM.

What are 'recording modes'?

There are two recording modes available using this recorder: VR mode and Video mode. When recording to a DVD-R disc, recordings are always in Video mode. DVD-RW discs can be formatted for VR mode recording or Video mode recording.

VR mode recording

- Standard Play (**SP**) or Manual (**MN**) modes
- 32 different picture quality/recording time settings available in **MN** mode
- Playable only on 'RW compatible players'. (Not playable on regular DVD players)
- Recordings can be extensively edited

Video mode recording

- 2 picture quality/recording time settings (**V1** and **V2**)
- Playable on regular DVD players (after finalizing)
- Limited editing features

Many functions of this recorder are dependent on the recording mode. One or more of the following symbols appear by each function explained in this manual so that you can see at a glance whether it's relevant for the disc loaded.

Video mode DVD-R

Video mode DVD-R DVD-RW

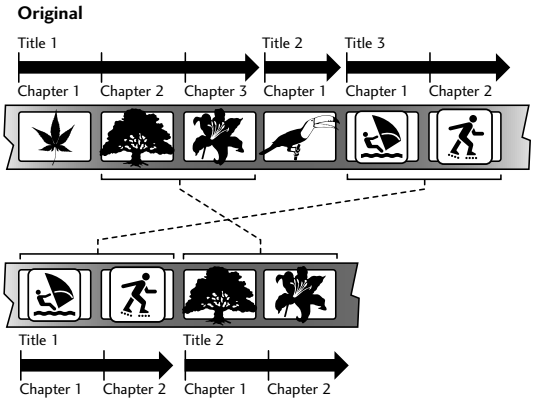
Video mode DVD-RW

VR mode DVD-RW

You can find more information on disc formats, recording modes and record settings on **page 40**.

Is editing a DVD like editing a video tape?

When you edit a video tape you need one video deck to play the original tape and another to record the edits. With DVD, you edit by making a 'Playlist' of what to play and when to play it. On playback, the recorder plays the disc according to the Playlist.



Throughout this manual, you will often see the words *Original* and *Playlist* to refer to the actual content and the edited version.

- **Original** content refers to what's actually recorded on the disc.
- **Playlist** content refers to the edited version of the disc—how the Original content is to be played.

On-screen icons

While using this recorder, you may occassionally see either a icon or a icon appear on-screen when you try and do something.

The icon means that the disc does not allow the function to be used at present.

The icon means that the recorder does not allow the function to be used at present.

Recordable discs

Logo	Attributes
DVD-RW	12cm, single-sided, single layer disc Approx. max. recording time (VR mode): 360 minutes (4.7GB) 8cm, single-sided, single layer disc Approx. max. recording time (VR mode): 100 minutes (1.46GB)
DVD-R	12cm, single-sided, single layer disc Approx. max. recording time (V2 mode): 120 minutes (4.7GB) 8cm, single-sided, single layer disc Approx. max. recording time (V2 mode): 30 minutes (1.46GB)

Important

- This recorder cannot record CD-R or CD-RW discs.
- DVD-R/RW and CD-R/RW discs recorded using a personal computer or a DVD or CD recorder may not play if the disc is damaged or dirty, or if there is dirt of condensation on the player's lens.
- If you record a disc using a personal computer, even if it is recorded in a compatible format, there are cases in which it may not play because of the settings of the application software used to create the disc. (Check with the software publisher for more detailed information.)

Playback-only discs

Any disc that displays one of the following logos should play in this recorder. Other formats, including DVD-Audio, DVD-RAM, DVD-ROM, CD-ROM, SACD and Photo CD will not play.

DVD-Video Video CD

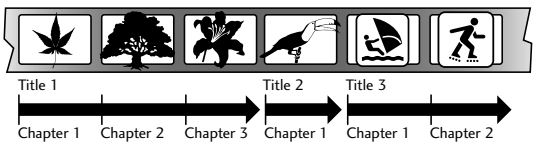
Audio CD CD-R CD-RW

Note

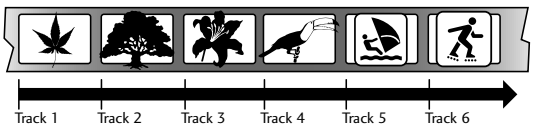
- This recorder can play both NTSC and PAL video.
- Do not use an adapter when playing 8cm discs.
- CD-R and CD-RW discs can be played if they have been recorded with CD-DA (Red Book) or Video CD (White Book) content.

Titles, chapters and tracks

DVD discs are generally divided into one or more titles. Titles may be further subdivided into chapters.



CDs and Video CDs are divided into tracks.

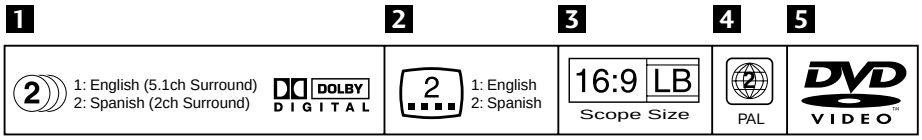


DVD-Video regions

All DVD-Video discs carry a region mark on the case somewhere that indicates which region(s) of the world the disc is compatible with. Your DVD recorder also has a region mark, which you can find on the rear panel. Discs from incompatible regions will not play in this recorder. Discs marked **ALL** will play in any player.

DVD disc box information

When you buy a DVD-Video in the shops, the back of the disc box usually contains various information about the contents of the disc. Below is an example, with an explanation of each section.



1 Audio languages and audio formats

DVD-Video discs can contain up to 8 separate soundtracks with a different language on each.

This section also details the audio format of each soundtrack—Dolby Digital, DTS, etc.

Dolby Digital

Dolby Digital is the most widespread DVD-Video audio format. Dolby Digital soundtracks can be mono, stereo, or contain up to 5.1 channels (the .1 refers to a special low-frequency effects channel).

DTS

DTS and DTS ES are other multichannel surround formats sometimes used on DVD-Video discs, often in addition to a Dolby Digital track.

Linear PCM

Linear PCM audio also sometimes appears on DVD-Video discs, usually on music related material. Linear PCM sountracks are mono or stereo only.

2 Subtitle languages

DVD discs can contain up to 32 subtitle languages. You can watch the disc with any of these subtitle languages, or with no subtitles displayed at all.

3 Screen aspect ratio

Movies are shot in a variety of screen formats. This box tells you what the original format was (in this case, Cinemascope), and what it is best viewed as on a widescreen TV and a regular 4:3 TV. In this case, if you have a regular 4:3 TV, it is recommended that you watch it in letterbox mode.

4 Region code and TV format

The world is divided into 6 DVD regions. Both discs and players are coded for a particular region, and to be able to play a disc, it must contain the same region code as the player.

This section also contains the TV format of the disc. In this case, PAL.

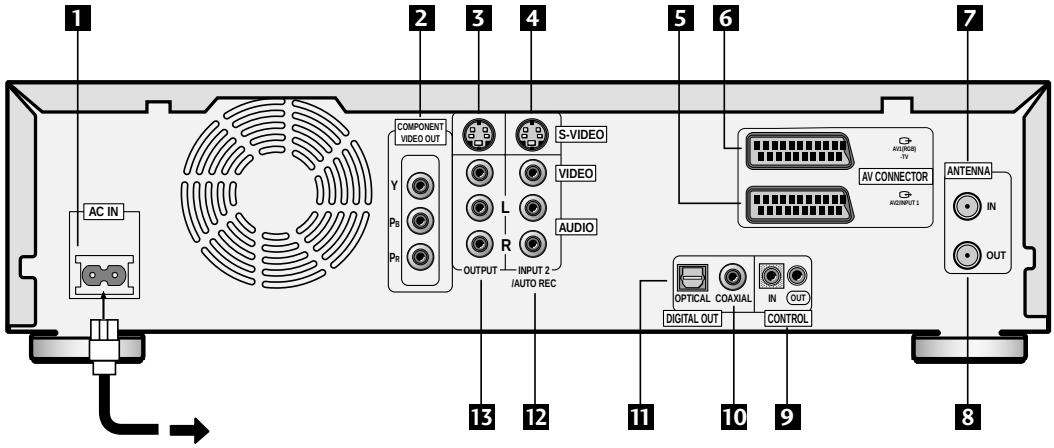
5 DVD-Video logo

Angle mark ( )

Some DVD-Video discs feature scenes shot simultaneously from two or more angles. During playback, you can switch between these different angles.

- *Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.*
- *"DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.*

Rear panel connections



1 AC IN – Power inlet

2 COMPONENT VIDEO OUT

For connecting to a TV or monitor that has component video input (**page 15**)

3 S-VIDEO OUTPUT

For connecting to a TV, monitor, AV receiver or other equipment with S-Video input (**page 15, 18–19**)

4 S-VIDEO input (INPUT 2)

For recording from a camcorder, VCR or other equipment with S-Video output (**page 19**)

5 AV2/INPUT 1 AV CONNECTOR

Audio/video input/output SCART-type connector for connecting to a VCR, or other equipment with a SCART connector (**page 14, 16–17**). The video input/output is ordinary video or S-Video only.

6 AV1 (RGB)-TV AV CONNECTOR

Audio/video output SCART-type connector for connecting to a TV or other equipment with a SCART connector (**page 14, 16–17**). The video output is switchable between ordinary video, S-Video and RGB. See page 83 for how to set this up.

7 ANTENNA IN

Connect the TV antenna here (**page 14**)

8 ANTENNA OUT

Passes the signal from the **ANTENNA IN** terminal to your TV (**page 14**)

9 CONTROL IN / OUT

Use for connecting to other Pioneer components bearing the Pioneer SR mark. Connect the **CONTROL OUT** of one component to the **CONTROL IN** of another using a mini-plug cord. The device at the beginning of the chain acts as the remote control sensor for everything in the chain.

10 DIGITAL OUT COAXIAL

For connecting to an AV receiver, Dolby Digital/DTS/MPEG decoder or other equipment with coaxial digital input (**page 18**)

11 DIGITAL OUT OPTICAL

For connecting to an AV receiver, Dolby Digital/DTS/MPEG decoder or other equipment with optical digital input (**page 18**)

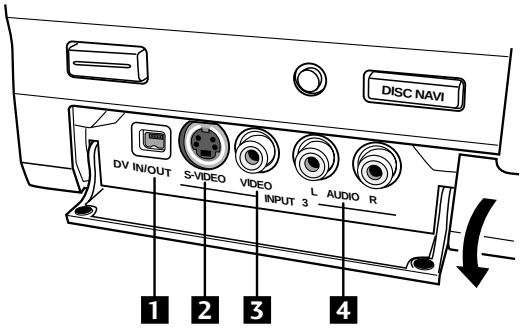
12 AUDIO/VIDEO input (INPUT 2/AUTO REC)

For recording from a camcorder, VCR, satellite receiver or other equipment (**page 19**)

13 AUDIO/VIDEO OUTPUT

For connecting to the audio and video inputs of a TV, monitor, AV receiver or other equipment (**page 15, 18–19**)

Front panel connections



1 DV IN/OUT jack
A combined input and output jack for connecting a DV camcorder/deck. See **page 19** for details.

2 S-VIDEO input (INPUT 3)
Connect to an S-Video output of a camcorder or other equipment.

3 VIDEO input (INPUT 3)
Connect to a ordinary video output of a camcorder or other equipment.

4 AUDIO L/R (INPUT 3)
Connect to a stereo pair of audio outputs of a camcorder or other equipment.

Extra features for use with compatible TVs

When this recorder is connected to a TV that features T-V Link, EasyLink, MegaLogic, SMARTLINK, Q-Link, DATA LOGIC or NexTView Link using a fully-wired 21 -pin SCART cable (such as the one supplied), the following functions are available:

- Direct TV recording
- Channel preset download
- Electronic Program Guide (EPG) download
- TV auto power on

Note

For further details and compatibility information, see also the manual that came with your TV.

Direct TV recording

Direct TV recording allows you to record the TV program that you're watching, without having to worry about whether this recorder is set to the same channel. See **page 81** for more on this feature.

Channel preset download

This feature allows you to very simply setup the channel presets of this recorder using the channel presets already in your TV. See **page 25** for more on this feature.

EPG download

EPG download allows you to program a timer recording directly from the electronic program guide displayed on your TV. See the manual that came with your TV for how to use this feature. Note that the **SP** and **LP** options displayed on your TV correspond to the **SP** and **MN9** recording rates respectively on this recorder.

TV auto power on

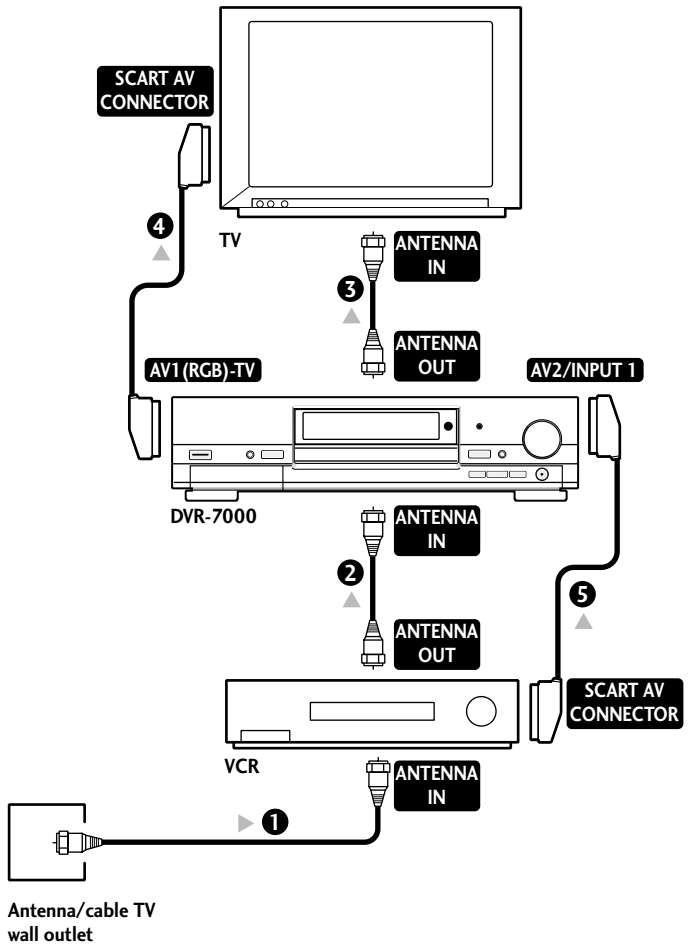
When you play a disc in this recorder, the TV automatically turns on and switches to the correct video input. See the manual that came with your TV for how to use this feature.

Easy connections

The setup described below is a basic setup that allows you to watch and record TV programs, and play discs. Other types of connection are explained starting on **page 15**.

Important

- These connections use the supplied SCART cable. If your TV (or VCR) does not have a SCART connection, see the following page for connecting up using the supplied video and stereo audio cables.
- The **AV1 (RGB)-TV** AV connector can output ordinary, S-Video or RGB video, plus stereo analog audio. The **AV2/INPUT 1** connector acts as both input and output for stereo audio and video. By default, both AV connectors output ordinary video. To change the type of video output see **page 83**.
- Before making or changing any rear panel connections, make sure that all components are switched off and unplugged from the wall outlet.



1 **Connect the cable from the antenna/cable TV outlet to the antenna input on your VCR.**

Note

If you are not connecting a VCR in the chain, connect it to the **ANTENNA IN** jack on this recorder and skip the next step.

2 **Use an RF antenna cable (one is supplied) to connect the antenna output of your VCR to the ANTENNA IN of this recorder.**

3 **Use another RF antenna cable to connect the ANTENNA OUT of this recorder to the antenna input on your TV.**

4 **Use the supplied SCART cable to connect the AV1 (RGB)-TV AV connector on this recorder to the SCART AV connector on your TV.**

5 **Use another SCART cable to connect the AV2/INPUT 1 AV connector to a SCART AV connector on your VCR.**

Note

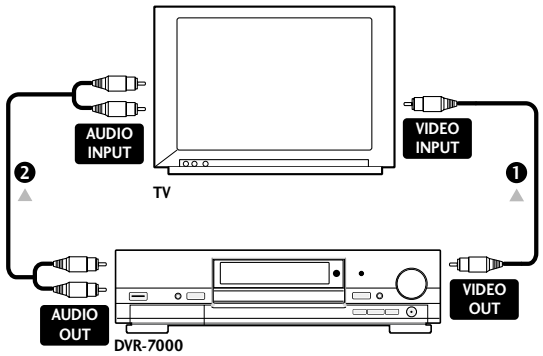
See the following page if you want to use one of the other kinds of audio/video connection.

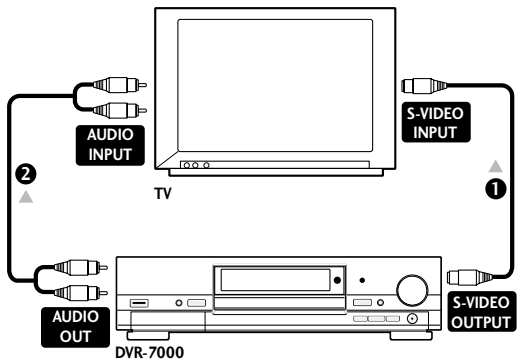
Tip

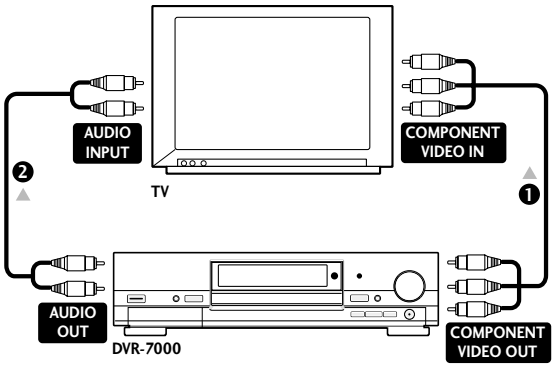
This recorder has a 'loop through' function. This feature allows you to record a TV program from the built-in TV tuner in this recorder, while watching a video playing on your VCR (only when Power Save is off—see **page 81**).

Using other types of audio/video output

If you can't use the SCART AV connector to connect your TV to this recorder, there is an ordinary video output, an S-Video output and component video outputs for video, and ordinary stereo audio outputs for the audio.







Connecting using ordinary AV cables

1 **Connect the VIDEO OUTPUT jack to a video input on your TV.**
Use the supplied yellow video cable for the video connection.

2 **Connect the AUDIO OUTPUT jacks to the corresponding audio inputs on your TV.**
Use the supplied stereo audio cable for the audio connection. Make sure you match up the left and right outputs with their corresponding inputs for correct stereo sound.

Connecting using the S-Video output

1 **Use an S-Video cable (not supplied) to connect the S-VIDEO OUTPUT to an S-Video input on your TV, monitor (or other equipment).**

2 **Connect the audio cables as described above.**

Connecting using the component video output

1 **Use a component video cable (not supplied) to connect the COMPONENT VIDEO OUT jacks to a component video input on your TV, monitor (or other equipment).**

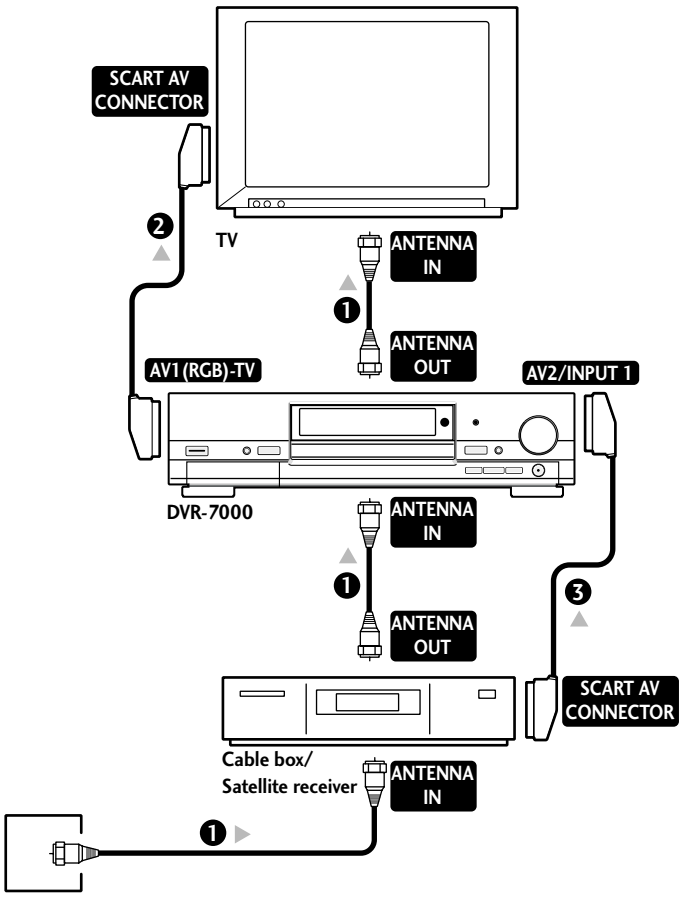
2 **Connect the audio cables as described above.**

Connecting to a cable box or satellite receiver

If you have a cable or satellite receiver with a built-in decoder, connect it to this recorder and your TV as shown on this page. If you are using a separate decoder box for your cable/satellite TV, set up following the instructions on the next page.

Using the setup on this page you can:

- Record any channel by selecting it on the cable box/satellite tuner.



1 **Connect RF antenna cables as shown.**
This enables you to watch and record TV channels.

2 **Use the supplied SCART cable to connect the AV1 (RGB)-TV AV connector to a SCART AV connector on your TV.**
This enables you to watch discs.

3 **Use another SCART cable to connect the AV2/INPUT 1 AV connector to a SCART AV connector on your satellite/cable box.**
This enables you to record scrambled TV channels.

Note

The diagram shows SCART video connections, but you can alternatively use any of the other audio/video connections.

Important

Do not connect this recorder 'through' your VCR, satellite receiver or cable box. Always connect each component directly to your TV or AV receiver.

Tip

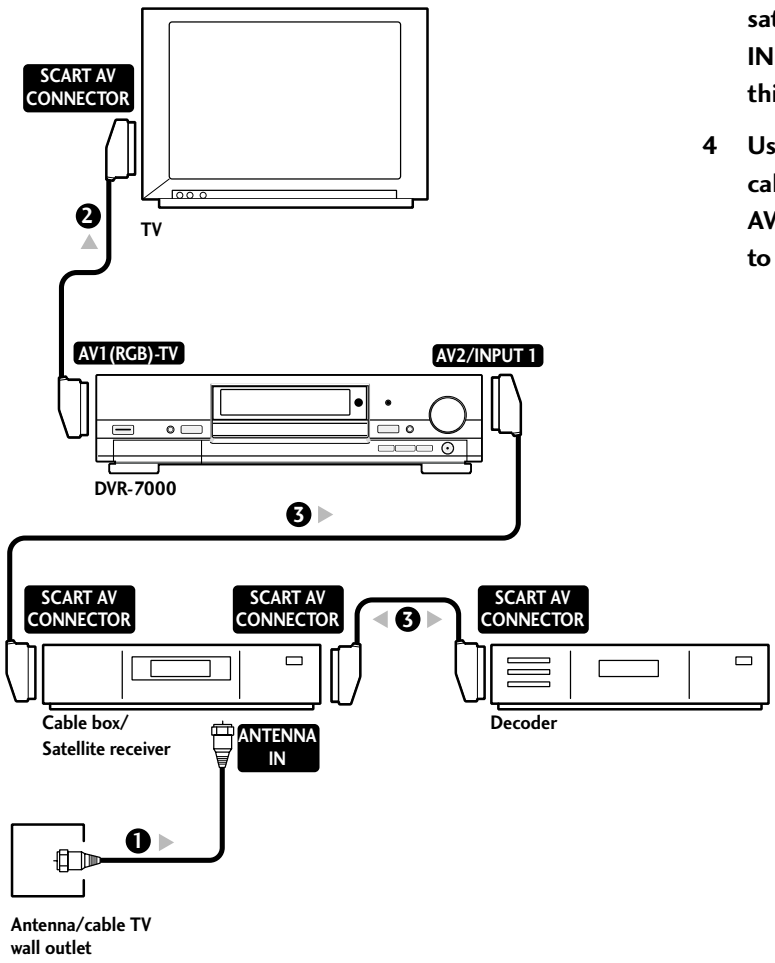
This recorder has a 'loop through' function. This feature allows you to record a TV program from the built-in TV tuner in this recorder, while watching a satellite or cable channel (only when Power Save is off—see **page 81**).

Connecting an external decoder box

If you have an external, dedicated decoder box for your satellite or cable TV system, use the setup described on this page.

Important

- Do not connect your decoder box directly to this recorder.
- Information from the decoder (for example, relating to pay TV services), is only viewable when this recorder is off (in standby).
- For timer recording to work properly on this recorder, the VCR/satellite/cable box must also be switched on during recording.
- It is not possible to watch one TV program and record another using this setup.



1 **Connect the cable from the antenna/cable TV outlet to the antenna input on your VCR/cable/satellite tuner.**

2 **Use a SCART cable to connect your decoder to your VCR/cable/satellite tuner.**
See the manual for your decoder box for more detailed instructions.

3 **Use a SCART cable to connect your VCR/cable/satellite tuner to the AV2/INPUT 1 AV connector on this recorder.**

4 **Use the supplied SCART cable to connect the AV1 (RGB)-TV AV connector to your TV.**

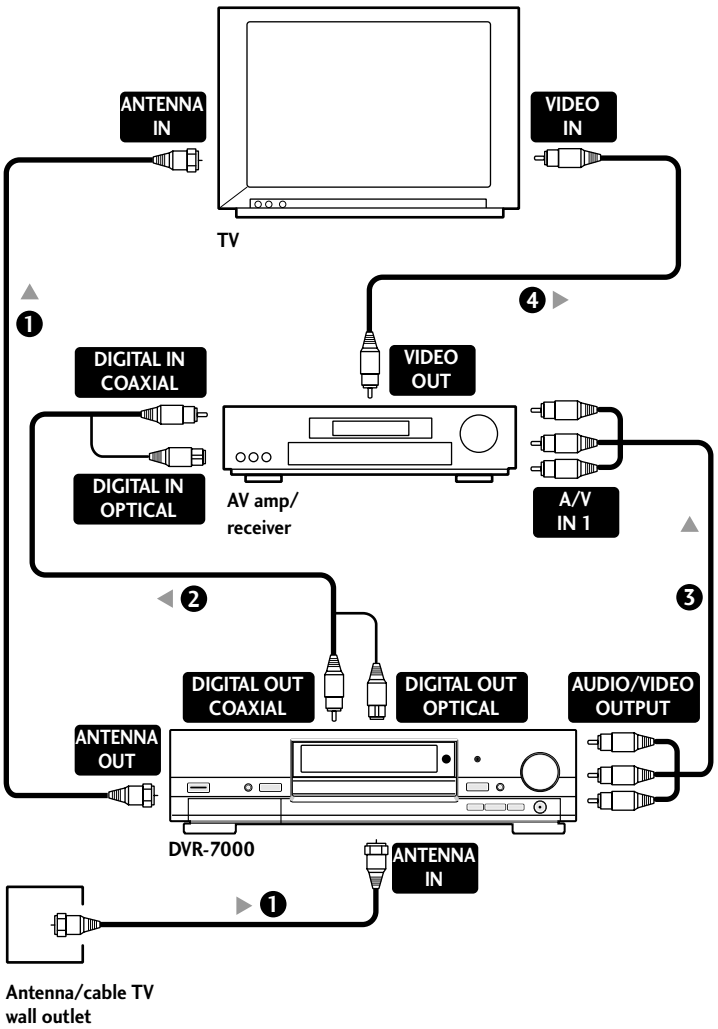
Connecting to an AV amplifier

To enjoy multichannel surround sound you need to connect this recorder to an AV amplifier/receiver using either the digital optical output or the coaxial output. Use whichever is convenient.

In addition to a digital connection, we recommend also connecting using the stereo analog connection (for cases such as playback of some bilingual recordings; see page 52).

You'll probably also want to connect a video output to your AV amplifier/receiver. Use the ordinary video output (as shown here), or the S-Video or component video connections.

See also **page 31** for how to set up the digital audio output. (Noise may be output from your speakers if the recorder is not set up to work with your AV amplifier/receiver.)



1 **Connect RF antenna cables as shown.**
This enables you to watch and record TV channels.

2 **Connect one of the DIGITAL OUT jacks on this recorder to a digital input on your AV receiver.**
This enables you to listen to multichannel surround sound.

For an optical connection, use an optical cable (not supplied) to connect the **OPTICAL DIGITAL OUT** jack to an optical input on your AV amplifier/receiver.

For a coaxial connection, use a coaxial cable (similar to the supplied video cable) to connect the **COAXIAL DIGITAL OUT** jack to a coaxial input on your AV amplifier/receiver.

3 **Connect the analog AUDIO OUTPUT and VIDEO OUTPUT jacks on this recorder to an analog audio and video input on your AV receiver.**

4 **Connect the AV receiver's video output to a video input on your TV.**

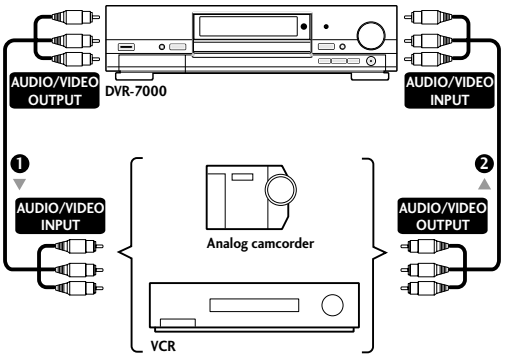
Note

The diagram shows ordinary video connections, but you can alternatively use an AV connector, or the S-Video or component video connections, if they're available.

Important

Do not connect this recorder to your TV 'through' your VCR using A/V cables. Always connect it directly to your TV.

Connecting other AV sources



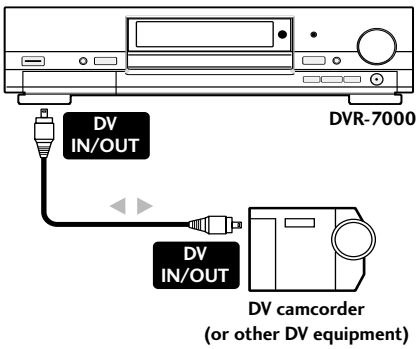
Connecting a VCR or analog camcorder

1 **Connect a set of audio and video outputs of your VCR or camcorder to a set of inputs on this recorder.**
This enables you to record tapes from your VCR or camcorder.

- You can use ordinary video or S-Video cables for the video connection.
- The front panel connections make convenient connections for a camcorder.

2 **Connect a set of audio and video inputs of your VCR or camcorder to a set of outputs on this recorder.**
This enables you to record from this recorder to your VCR or camcorder.

- You can use ordinary video or S-Video cables for the video connection.
- Alternatively, you can use the **AV2/INPUT 1** SCART connector for audio/video input and output with just one SCART cable.



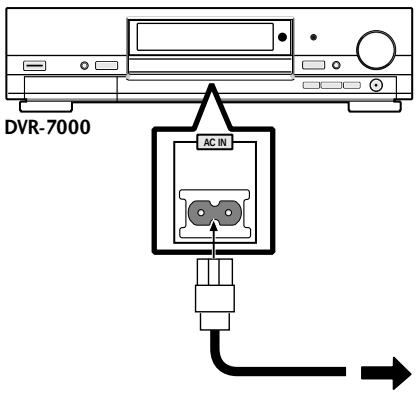
Connecting DV equipment

Using the front panel **DV IN/OUT** jack, it is possible to connect DV equipment to transfer DV tapes or DVD-R/RW discs to DVD-R/RW.

1 **Use a DV cable (not supplied) to connect the DV in/out jack of your DV camcorder/deck to the front panel DV IN/OUT jack of this recorder.**

Important

- This jack is for connection to DV equipment only. It is not compatible with digital satellite tuners or D-VHS video decks.
- There may be cases where some DV equipment cannot be connected properly.

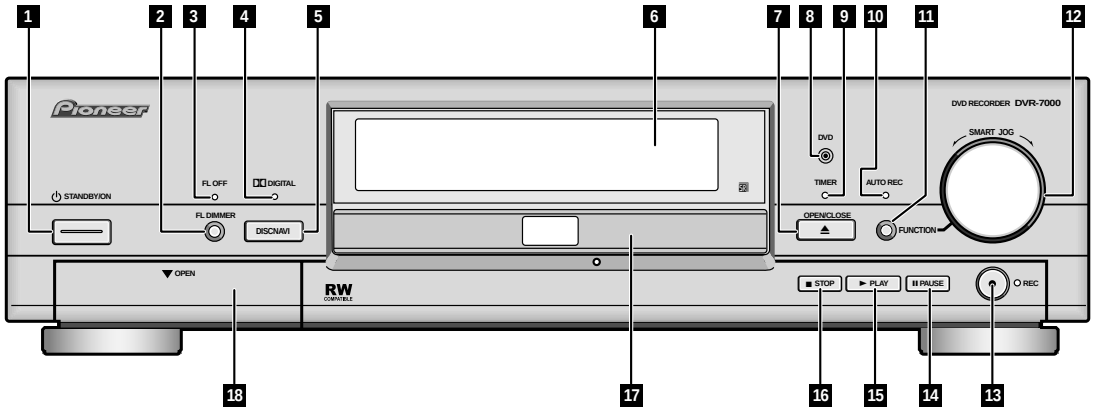


Plugging in

Before plugging in for the first time, make sure that everything is connected properly.

1 **Plug the supplied AC power cable into the AC IN inlet and the other end into a standard household power outlet.**

Front panel



1 ⏻ STANDBY/ON button
page 24

2 FL DIMMER button
Press to change the display brightness

3 FL OFF indicator
Lights when the display is switched off using the **FL DIMMER** button

4 DOLBY DIGITAL indicator
Lights when a Dolby Digital soundtrack is playing

5 DISCNAVI button
Press to display the Discnavi screen | **page 68–77**

6 Display
page 21

7 OPEN/CLOSE ⏏ button
Press to open/close the disc tray | **page 34**

8 DVD indictor
Lights when a DVD disc is loaded

9 TIMER indicator
Lights when the record timer is set and the power is in standby

10 AUTO REC indicator
Lights when the recorder has been set for automatic recording | **page 64**

11 FUNCTION button
Press to switch the function of the **SMART JOG**

12 SMART JOG control
Turn to change the parameter selected with the **FUNCTION** button

13 REC button/indicator
Press to start recording | **page 45–46, 64–66**

14 ❚❚ PAUSE button
Press to pause playback or recording | **page 34–36, 45**

15 ► PLAY button
Press to start or restart playback | **page 34–36**

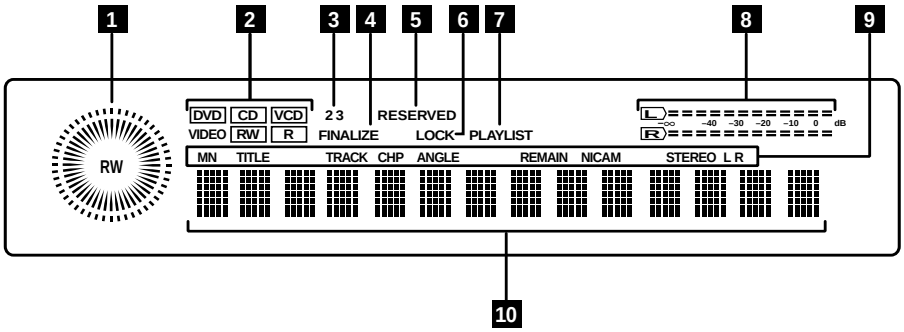
16 ■ STOP button
Press to stop playback or recording | **page 34–36**

17 Disc tray

18 Front panel jacks
Analog and digital input/output jacks for connecting a camcorder or other external equipment | **page 13, 19**

RW
COMPATIBLE
This indicates a product feature that is capable of playing DVD-RW discs recorded with Video Recording format.

Display



1 Play/record indicator

Outer (white) ring indicates the playback speed and direction. Inner (red) ring indicates elapsed playback/ recording time

The center **RW** indicator lights when a VR mode disc is loaded

2 DVD CD VCD VIDEO RW R

Shows the type of disc loaded

3 2 3

Shows the remote control mode (if nothing is displayed, the remote control mode is **1**) | **page 91**

4 FINALIZE

Lights when a finalized disc is loaded | **page 46**

5 RESERVED

Lights when a disc containing a disc timer program is loaded | **page 62–63**

6 LOCK

Lights when the child lock is active | **page 63**

7 PLAYLIST

Lights when a VR mode disc is loaded and the recorder is in Playlist mode | **page 68**

8 Audio level indicators

Monitors the ouput audio level during playback and the input audio level during recording

9 MN

Display shows the manual rate recording level | **page 43**

TITLE

Display shows the current title number of the DVD disc playing

TRACK

Display shows the current track number of the CD or Video CD disc playing

CHP

Display shows the current chapter number of the DVD disc playing

ANGLE

Lights when a multiangle scene on a DVD disc is playing, indicating that you can switch angles

REMAIN

Display shows the amount of recording time available on the disc loaded

NICAM

Lights when the broadcast audio is NICAM | **page 34, 45**

STEREO

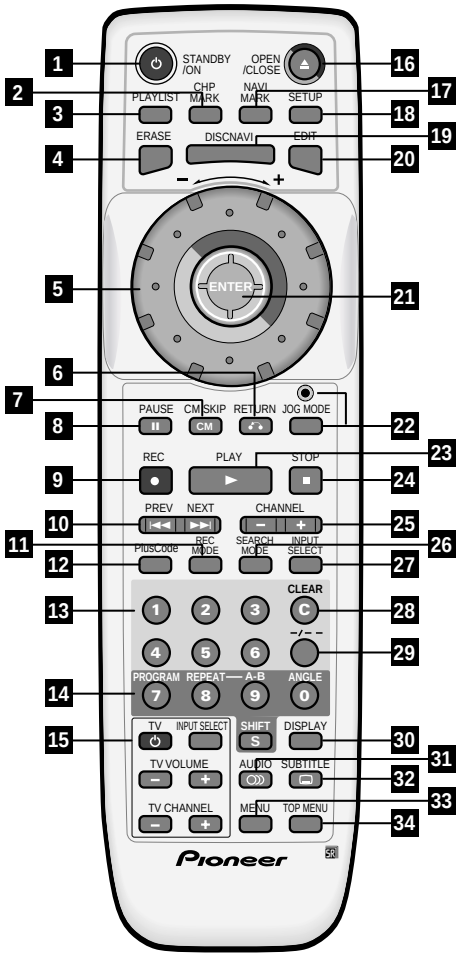
Lights when the incoming TV signal is stereo or the external input is set to Stereo. See *External Audio* on **page 84**

L R

Lights when the audio signal is bilingual, and indicates which channels are recorded/played back when Bilingual is selected. See *External Audio* on **page 84**

10 Character display

Remote control



1 ⏻ STANDBY/ON
Switches the recorder on/into standby | **page 24**

2 CHP MARK
Inserts a chapter marker when playing/recording a VR mode DVD-RW disc | **page 68**

3 PLAYLIST
Switches beween Original and Playlist | **page 68**

4 ERASE
Shortcut to the erase function in the Discnavi or Title List screen | **page 74, 79**

5 Jog dial
Controls scanning/slow motion speed and direction, and frame advance/reverse | **page 38–39**

6 ↶● RETURN
Returns to the previously displayed on-screen display

7 CM SKIP
Skips 30 seconds forward on the disc (about the length of a typical TV commercial) | **page 35–36**

8 ❚❚ PAUSE
Pauses playback or recording | **page 35–36, 45**

9 ● REC
Starts recording. Press repeatedly to set the recording time | **page 45–46, 64–66**

10 ⏮ PREV
Track or chapter skip/displays the previous page of a menu | **page 34–36**

⏭ NEXT
Track or chapter skip/displays the next page of a menu | **page 34–36**

11 REC MODE
Switches the recording mode between **SP** to **MN** for a VR mode disc, or between **V1** and **V2** for a Video mode disc | **page 40, 43–44**

12 PlusCode
Press, then use the number buttons to enter a PlusCode programming number for timer recording | **page 60–61**

13 Number buttons

14 PROGRAM (Press **SHIFT** first to access)
Displays the program play screen I **page 54**

REPEAT (Press **SHIFT** first to access)
Selects the repeat play mode I **page 53**

A-B (Press **SHIFT** first to access)
Marks a loop for looped playback I **page 53**

ANGLE (Press **SHIFT** first to access)
Switches camera angles on discs with multi-angle scenes I **page 52**

SHIFT
Press first to access the above functions

15 TV controls
Use this remote to control your TV I **page 32**

16 ⏏ OPEN/CLOSE
Opens/closes the disc tray I **page 34**

17 NAVI MARK
Selects a thumbnail picture for the current title for use in the Discnavi screen I **page 69**

18 SETUP
Displays the Setup menu I **page 24**

19 DISCNAVI
Displays the Discnavi screen I **page 69**

20 EDIT
Shortcut to the editing functions within the Discnavi or Title List screen I **page 73**

21 Joystick / ENTER
Use the joystick to navigate all on-screen displays. Press **ENTER** to select the currently highlighted option.

22 JOG MODE button and indicator
Switches the Jog dial between scanning and frame advance mode I **page 39**

23 ► PLAY
Starts playback I **page 34–36**

24 ■ STOP
Stops playback/recording I **page 34–36**

25 CHANNEL –/+
Changes the channel of the built-in TV tuner I **page 33**

26 SEARCH MODE
Allows searching of the disc by title, chapter, track, time, etc. I **page 50**

27 INPUT SELECT
Changes the input to use for recording I **page 64–65**

28 CLEAR
Clears the current setting, etc.

29 –/––
Press, then use the number button to enter a two-digit channel number I **page 33**

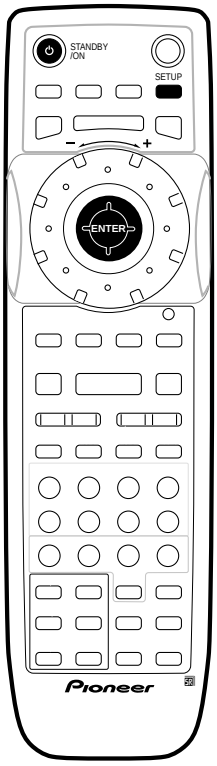
30 DISPLAY
Displays/changes the on-screen information displays I **page 47–49**

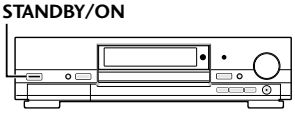
31 AUDIO
Changes the audio language or channel I **page 34, 45, 51–52**

32 SUBTITLE
Displays/changes the subtitles included in multilingual DVD-Video discs I **page 51**

33 MENU
Displays the disc menu of DVD-Video discs or the Title List screen of Video mode DVD-R/RW discs I **page 36, 78**

34 TOP MENU
Displays the disc 'top' menu of DVD-Video discs or the Title List screen of Video mode DVD-R/RW discs I **page 36, 78**





Switching on

1 **Press the ⏻ STANDBY/ON button on the remote control or the front panel to switch on.**

- To put the recorder back into standby, press ⏻ **STANDBY/ON** again. Make sure you never disconnect the power cord before the **POWER OFF** indication in the display goes off. You could lose portions of a recording.

2 **Switch on your TV and set the video input to this recorder.**

- You can set up the remote to control your TV–see **page 32** for how to do this.

Using the on-screen displays

Most of the settings and functions of this recorder are accessed using on-screen displays on your TV. These are navigated very simply using the joystick to change the highlighted option (shown in yellow), and pressing **ENTER** to select it.

The following setup procedures will not only get your recorder setup for use, but will also get you acquainted with the way the on-screen displays work.

Information about the highlighted option is displayed towards the bottom of the screen. Under the help information is a summary of the controls used to navigate the screen.

Setting up: Auto-tuning channels

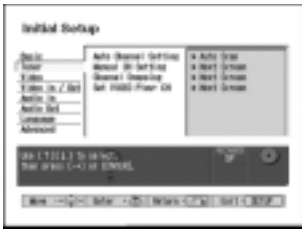
This recorder has a built-in TV tuner for recording PAL B/G, PAL I and SECAM L TV programs off the air or from analog cable TV. We recommend that you first use the Auto Channel Setting described here to tune into the channels in your area, then if there are any unwanted channels, you can disable them using Channel Skip (described below).

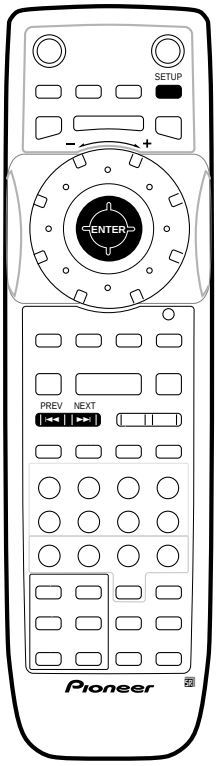
1 **Press SETUP.**

2 **Choose 'Initial Setup' from the menu.**

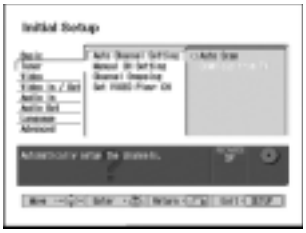
- Move the joystick up/down to change the highlighted option, then press **ENTER**.

3 **Choose 'Tuner' from the Initial Setup menu.**



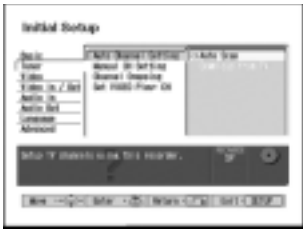


4 Choose 'Auto Channel Setting'.

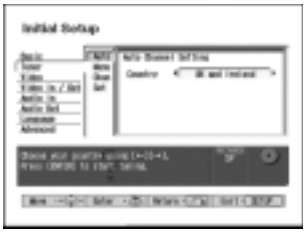


5 Choose 'Auto Scan'.

See also *Downloading channels from your TV* below.



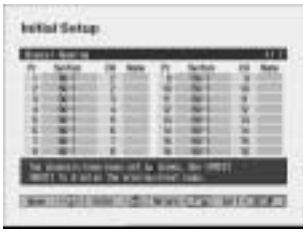
6 Select your country.



After pressing **ENTER**, the recorder starts tuning.

- If you want to cancel, press **ENTER**.

After the auto scan has finished, the channel mapping screen appears showing which channels have been assigned to which program numbers.



Use the **PREV/NEXT** buttons to display the previous/next page.

Note

You can fine-tune individual stations using the **Manual CH Setting** feature. See **page 26** for how to use this.

7 Press SETUP to exit this screen.

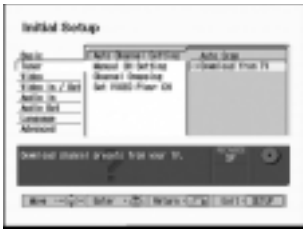
Downloading channels from your TV

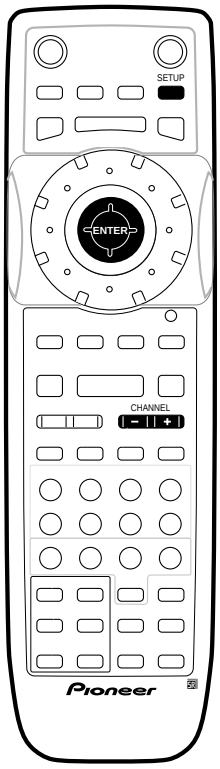
If you connected this recorder to your TV using the AV2 (RGB)-TV connector, and if your TV supports this function, you can download all the channels that your TV is tuned to. Check your TV's instruction manual for more details.

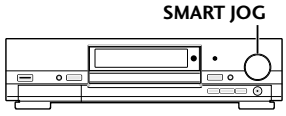
1 If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.

2 Choose 'Tuner' from the Initial Setup menu.

3 Choose 'Download from TV'.







4 Press ENTER to start downloading.

After downloading has finished, the channel mapping screen appears showing which channels have been assigned to which program numbers.

Tip

If the channel tuning information is updated in the TV, the recorder will automatically download the new information.

Setting up: Channel skip, manual tuning and naming stations

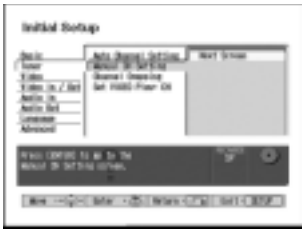
The channel skip function lets you skip channels where there is no station so that as you change channels using the **CHANNEL –/+** buttons or the front panel **SMART JOG**, you only change to channels that have a station.

The manual tuning function allows you to manually tune to stations, should you need to.

1 If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.

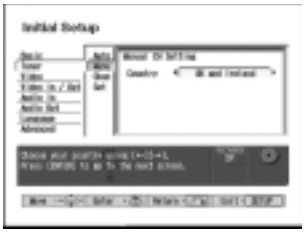
2 Choose 'Tuner' from the Initial Setup menu.

3 Select 'Manual CH Setting'.

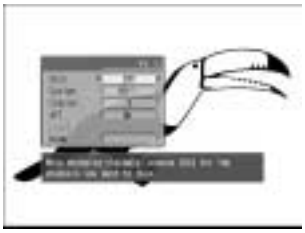


Press **ENTER** to go to the country setting screen.

4 Select your country.



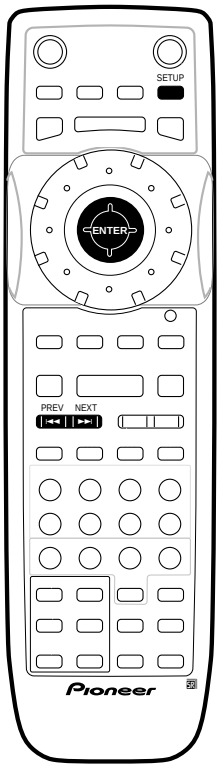
5 Press ENTER to go to the manual channel setting screen.



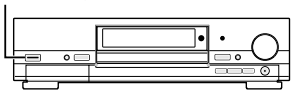
- Use the **CHANNEL –/+** button to change channels.

From this screen there are six parameters you can set:

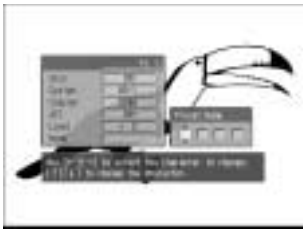
- **Skip** – If you want to skip the displayed channel (because there is no station assigned to that channel), change the **Skip** setting to **On**.
- **System** – Change the TV system currently used



STANDBY/ON



- **Channel** – Change the channel number asigned to the current program
- **AFT** (Auto Fine Tune) – When set to **On**, the station is automatically tuned; set to **Off** to manually fine tune (see below)
- **Level** – Set the AFT level (see above)
- **Name** – Move the cursor right then input a name for the current station, (up to four characters) then press **ENTER**



6 To return to the Initial Setup menu, press ENTER.

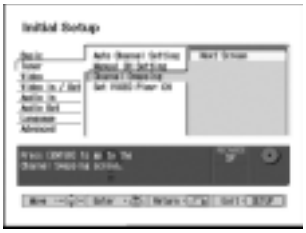
Swapping station presets

The preset swap feature lets you swap the channel assignments of different programs. This is so that you can group together station presets which naturally go together.

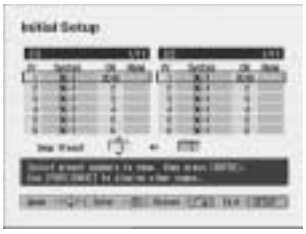
1 If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.

2 Choose 'Tuner' from the Initial Setup menu.

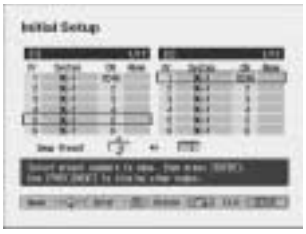
3 Choose 'Channel Swapping'.



4 Press ENTER to go to the swap presets screen.

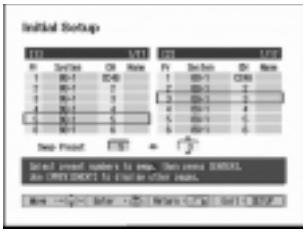


5 Select a preset station to swap.

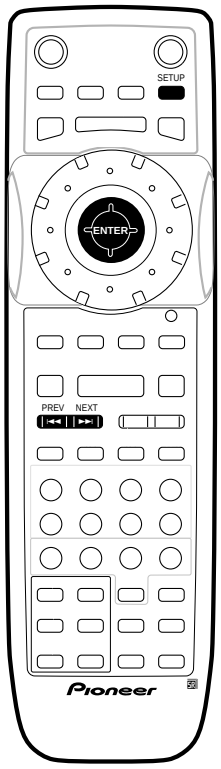


Use the **PREV/NEXT** buttons to display the previous/next page.

6 Move the cursor right, then select a preset station to swap with the first preset.



7 Press ENTER to swap the presets.



8 **If you want to swap more presets, move the cursor left, then repeats steps 5–7.**

9 **Press SETUP to finish and exit.**

Setting up: Assigning guide channels for VIDEO Plus+® programming system

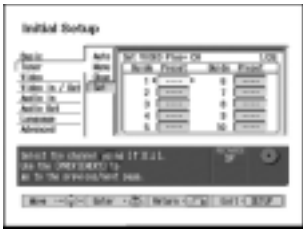
Guide channels are used by the VIDEO Plus+ system so that the channel number specified in the PlusCode programming numbers can be guaranteed to correspond to the correct station.

1 **If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.**

2 **Choose 'Tuner' from the Initial Setup menu.**

3 **Choose 'VIDEO Plus+ CH Setting' from the sub-menu.**

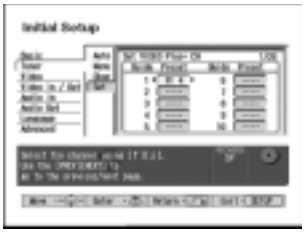
4 **Press ENTER to go to the VIDEO Plus+ channel setting screen.**



Note

The VIDEO Plus+ system is only usable in the UK.

5 **Assign channel numbers to the guide channels as necessary.**



Look in your TV guide to see which channel numbers should be assigned to which guide channels.

- Use the **PREV** / **NEXT** button to display the previous/next 10 guide channels.

6 **To return to the Initial Setup menu, press ENTER.**

Setting up: Setting the clock

You must set the clock before you can use the timer recording features. This recorder features automatic clock setup, although it is also possible to set it manually.

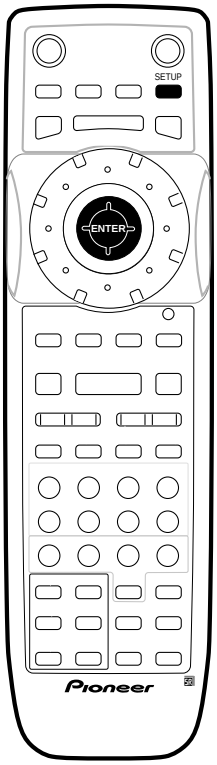
Auto clock setting

Some TV channels broadcast time signals together with the program. This recorder can use these signals to set the clock automatically.

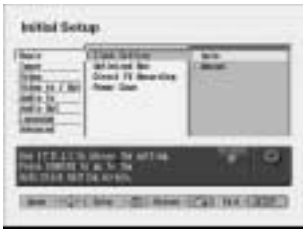
1 **If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.**

2 **Choose 'Basic' from the Initial Setup menu.**

3 **Choose 'Clock Setting'.**

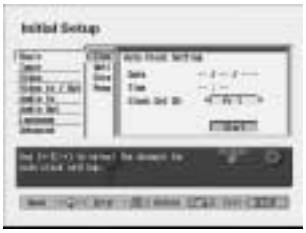


4 Choose 'Auto'.

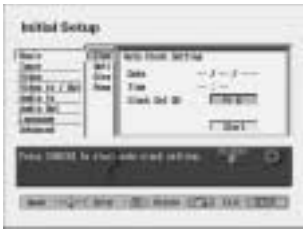


A screen appears where you can set the channel that broadcasts clock information (**Clock Set CH**).

5 Set 'Clock Set CH' to the program number that broadcasts a clock signal.



6 Move the cursor down to 'Start' and press ENTER.



After pressing **ENTER**, the recorder takes a little while to set the time.

If the automatic clock setting is unsuccessful, set the clock manually. (See *Manual clock setting* below).

Note

Make sure that the recorder is tuned properly to the channel that broadcasts the clock signal.

Manual clock setting

If it's not possible to set the clock automatically (because no stations in your area are broadcasting time signals), you can set the clock manually.

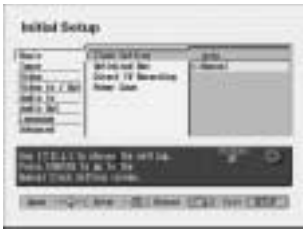
1 Press SETUP.

2 Choose 'Initial Setup' from the menu.

3 Choose 'Basic' from the Intial Setup menu.

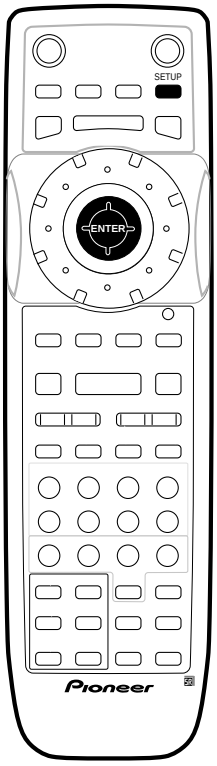
4 Choose 'Clock Setting'.

5 Choose 'Manual'.

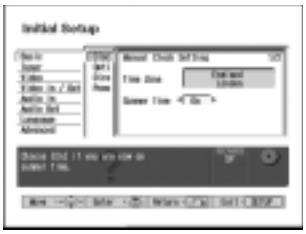


6 Set your time zone.

You can set this by selecting a city or a time relative to GMT.

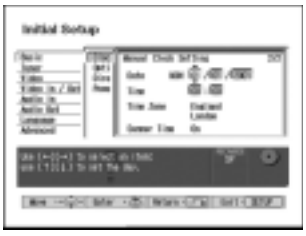


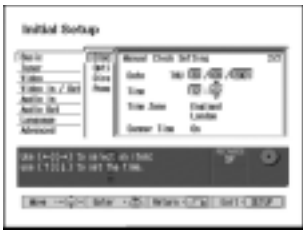
7 Move the cursor down and select 'On' for summertime if you are currently on summertime.



8 Press ENTER to proceed to the date and time setting screen.

9 Set the date (day/month/year) and time.





10 Press ENTER to make all the settings.

11 Press SETUP if you want to exit the Initial Setup menu.

Setting up: TV aspect ratio

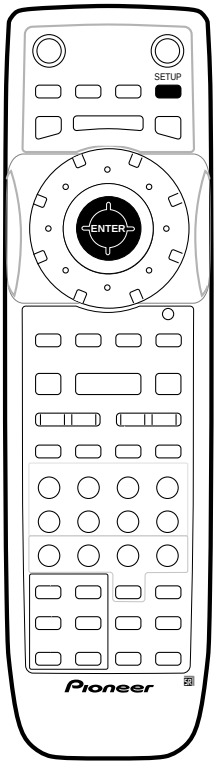
So that DVD-Video discs play properly on your TV, you need to tell the recorder what aspect ratio your TV is: standard (4:3) or widescreen (16:9).

If you have a standard (4:3) TV, you can choose between Letterbox and Pan & Scan presentation for widescreen discs. Letterbox shows the whole widescreen picture with black bars at the top and bottom of the screen. Pan & Scan chops off the sides of the picture to fit it into the 4:3 aspect ratio.

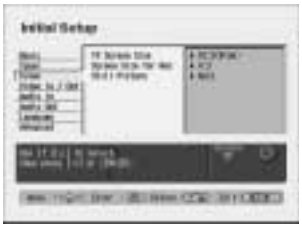
Note

- Some DVD-Video discs do not allow changing of the aspect ratio. Many discs will allow only the 16:9 (Wide) or 4:3 Letter Box settings. See the disc box for details.
- When playing a disc recorded in **16:9 (Wide)** format in **MN1** – **MN20**, the recorder automatically switches to **4:3 Letter Box**.

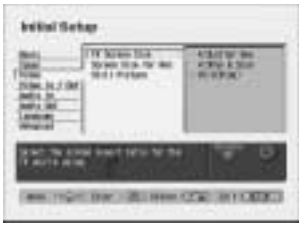
1 If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.



2 Choose 'Video' from the Initial Setup menu.



3 Choose 'TV Screen Size' from the sub-menu.



The available settings appear on the right, with the current setting indicated with a yellow square.

4 Choose a setting.

If you have a widescreen TV, choose **16:9 (Wide)**. If you have a standard TV, choose **4:3 Letter Box** or **4:3 Pan & Scan**, depending on which you prefer.

- See also **page 105** for more on screen sizes and settings.

5 If you want to exit the menu here, press SETUP.

Setting up: Digital audio output

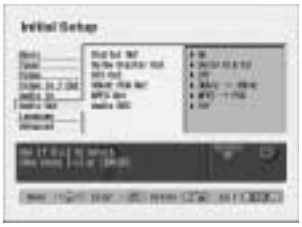
If you have connected this recorder to an AV amplifier/ receiver to enjoy full surround sound, you need to setup the recorder to make sure that it only outputs digital audio formats that are compatible with your amplifier/receiver.

Important

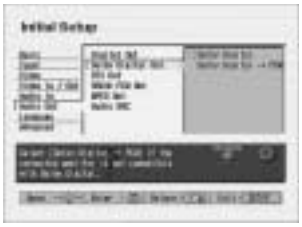
Sending an incompatible digital signal to an AV amplifier/receiver may result in noise being output from the speakers.

1 If the 'Initial Setup' menu is not already displayed, press SETUP and choose 'Initial Setup'.

2 Choose 'Audio Out' from the Initial Setup menu.



3 Choose 'Dolby Digital Out' from the sub-menu.

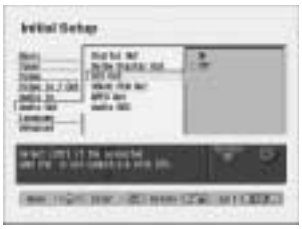


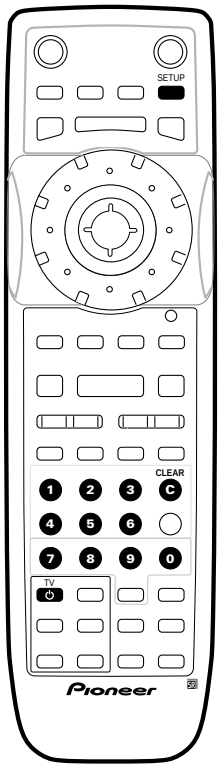
4 Choose a setting.

If your amplifier/receiver has a built-in Dolby Digital decoder, set to **Dolby Digital**, otherwise set to **Dolby Digital → PCM**.

- Check your amplifier/receiver's manual if you're not sure.

5 Choose 'DTS Out' from the sub-menu.

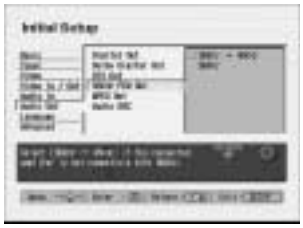




6 Choose 'On' if your amplifier/receiver has a built-in DTS decoder, otherwise leave it set to 'Off'.

- Check your amplifier/receiver's manual if you're not sure.
- When set to On there is no analog audio output when playing a DVD disc with DTS audio.

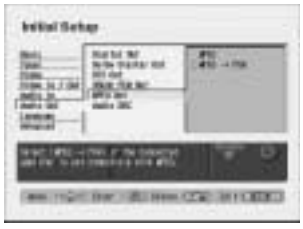
7 Choose '96kHz PCM Out' from the sub-menu.



8 Choose '96kHz' if your AV amplifier/receiver is compatible with 96kHz sampling rate audio, otherwise leave it set to '96kHz → 48kHz'.

- Check your amplifier/receiver's manual if you're not sure.
- Some 96kHz discs do not output 96kHz digital audio.

9 Choose 'MPEG Out' from the sub-menu.



10 Choose 'MPEG' if your amplifier/receiver has a built-in MPEG audio decoder, otherwise leave it set to 'MPEG → PCM'.

- Check your amplifier/receiver's manual if you're not sure.

11 If you want to exit the menu here, press SETUP.

Other settings you can make

There are many other settings that you can make from the Initial Setup menu, including options for audio and video input/output formats, DVD-Video language options, and parental lock settings. You can find more information about each of these settings in **chapter 10**, starting on **page 80**.

Setting up the remote to control your TV

You can use the remote supplied with this recorder to control your TV. To be able to use this feature you first have to program the remote with a maker code from the table below.

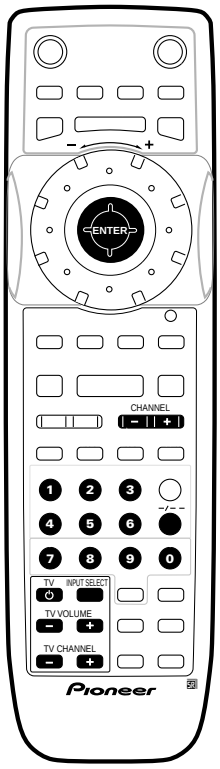
1 Hold down the CLEAR button and use the number buttons to input the maker code for your TV.

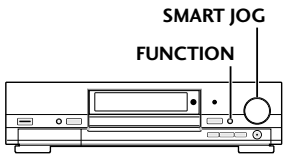
See the table right for the list of maker codes. If there is more than one code given for your maker, input the first one in the list.

- If the maker's name for your TV does not appear in the table below, you will not be able to use this remote to control your TV.

2 Press TV ⏻ to check that the remote works with your TV.

If the remote is set up correctly, the TV should switch on/off. If it doesn't and there is another code given for your maker, repeat step 1 with the new code.





button	What it does
TV ⏻	Press to switch the TV on/ off (standby)
INPUT SELECT	Press to change the video input
TV VOLUME	Use to adjust the TV volume
TV CHANNEL	Use to change TV channels

Maker	Code
Alba	66
Bush	76
Finlux	85
Fisher	61,65
Fujitsu	77
Funai	67
Goldstar	79
Grandiente	89
Grundig	51,82
HCM	68
Hitachi	56,60,83,87
ITT	70
JVC	63
Mitsubishi	59
Nokia	53,81
Panasonic	58,72
Philips	57,86
Pioneer	50,80,84,88
Salora	71
Samsung	73,75
Sanyo	74
Sei	78
Sharp	52
Sony	54
Tandy	69
Telefunken	64
Thomson	62
Toshiba	55

Using the built-in TV tuner

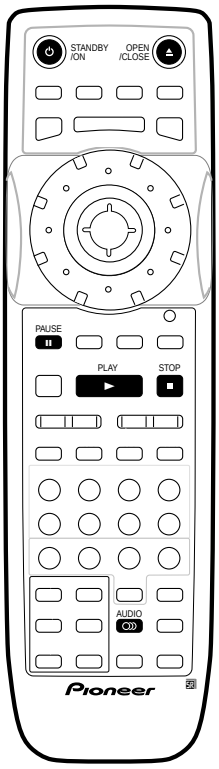
Changing TV channels

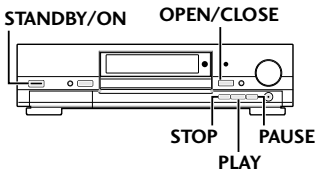
When no disc is playing, you can change TV channels using the number or **CHANNEL** buttons on the remote control, or the **SMART JOG** on the front panel.

Note

If the Tuner Audio setting (**page 84**) is set to **NICAM**, the audio automatically changes to NICAM whenever a NICAM broadcast is received.

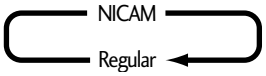
- *Remote:* **For single-digit channel numbers: Use the number buttons to input the channel number.**
  For example, to select channel 4, press **4**.
- *Remote:* **For double-digit channel numbers: Press –/––, then use the number buttons to input the channel number.**
  For example, to select channel 34, press -/-- then **3**, **4**.
- *Remote:* **Press CHANNEL + or CHANNEL – to change channel.**
- *Front panel:* **Press FUNCTION until CHANNEL? appears in the display, then turn the SMART JOG to change the channel.**



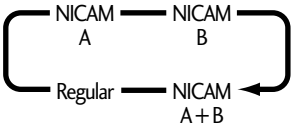


Changing audio channels

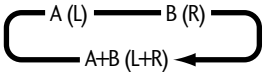
- **Press AUDIO to change the TV audio.**
  - If the Tuner Audio setting (**page 84**) is set to **NICAM**, and you are watching a NICAM broadcast, you can switch the audio output between **NICAM** and **Regular** (non-NICAM) audio.



  - If the NICAM broadcast is bilingual, you can also select the language:



  - You can also select the language for a non-NICAM bilingual broadcast:



  - When an external input is selected with Bilingual recording (see *External Audio* on **page 84**) selected, the audio channel can be switched between left, right or both.

Playing discs

The basic playback controls for playing DVDs, Video CDs and Audio CDs are covered here.

Note

Throughout this manual, the term 'DVD' means playback-only DVD-Video discs and DVD-R/RW. If a function is specific to a particular kind of DVD disc, it is specified.

Important

While using the DVD playback controls, you may see the or mark displayed on-screen.

- means that the operation is not allowed by the recorder.
- means that the operation is not allowed by the disc.

1 Press ⏻ STANDBY/ON to switch on.

If you're playing a DVD or Video CD, also turn on your TV and make sure that it is set to the correct video input.

2 Press OPEN/CLOSE ⏏ to open the disc tray.

3 Load a disc.

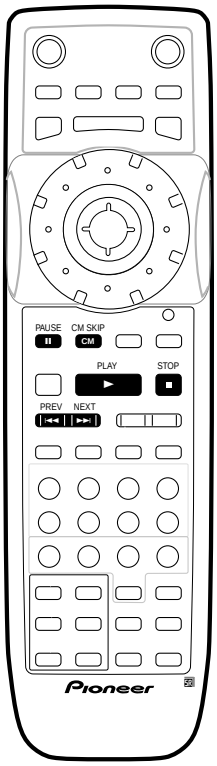
Load a disc with the label side facing up, using the disc tray guide to align the disc (if you're loading a double-sided DVD-Video disc, load it with the side you want to play face down).

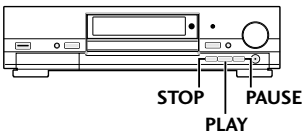
Note

If you want to play a DTS audio CD, make sure the recorder is connected to a DTS-compatible amplifier with a digital connection. *Noise will be output through the analog outputs.* Also make sure that **STEREO** is selected using the **AUDIO** button (see **page 52**).

4 Press ► to start playback.

- If you're playing a DVD-Video or Video CD, a menu may appear. See **page 36** for how to navigate these.
- To stop or pause playback, press **STOP ■** or **PAUSE ❚❚**.
- To eject the disc, press **OPEN/CLOSE ⏏**. Remove the disc before switching off.





Basic playback controls

DVD-Video Video mode DVD-R DVD-RW

For more information on Video mode and VR mode formatted discs, see **pages 9** and **40**.

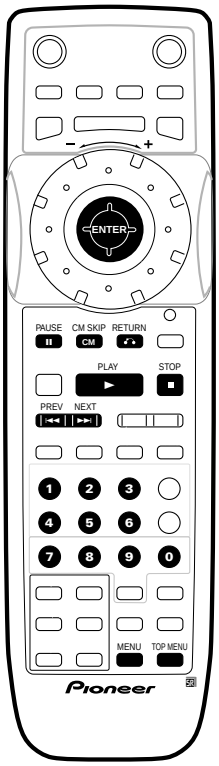
Button	What it does
►	Starts playback. (If **RESUME** is displayed on-screen, playback starts from the place last stopped.)
II	Pauses a disc that's playing, or restarts a paused disc.
■	Stops playback. The display shows **RESUME**. (Press again to cancel the resume function.)
I◄◄	Skips to the start of the current chapter, then to previous chapters.
►►I	Skips to the next chapter.
CM SKIP	(Commercial skip) Each press skips forward 30 seconds (approximately two average-length commercials). Use to a maximum of 4 mins.

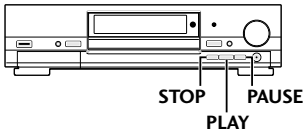
VR mode

DVD-RW

For more information on Video mode and VR mode formatted discs, see **pages 9** and **40**.

Button	What it does
►	Starts playback. (If **RESUME** is displayed on-screen, playback starts from the place last stopped.)
II	Pauses a disc that's playing, or restarts a paused disc.
■	Stops playback. The display shows **RESUME**. (Press again to cancel the resume function.)
I◄◄	Skips to the start of the current chapter, then to previous chapters. Press and hold for 2 seconds to skip to the previous title.
►►I	Skips to the next chapter. Press and hold for 2 seconds to skip to the next title.
CM SKIP	(Commercial skip) Each press skips forward 30 seconds (approximately two average-length commercials). Use to a maximum of 4 mins.





Video CD CD

Button	What it does
►	Starts playback. Video CD only: If **RESUME** is displayed on-screen, playback starts from the last place stopped.
II	Pauses a disc that's playing, or restarts a paused disc.
■	Stops playback. Video CD only: The display shows **RESUME**. (Press again to cancel the resume function.)
I◄◄	Skips to the start of the current track, then to previous tracks.
►►I	Skips to the next track.
CM SKIP	*Video CD only**. Each press skips forward 30 seconds (approximately two average-length commercials). Use to a maximum of 4 mins. * Can't be used in PBC mode.

Using DVD-Video disc menus

Many DVD-Video discs contain menus. Sometimes these are displayed automatically when you start playback; others only appear when you press **MENU** or **TOP MENU**.

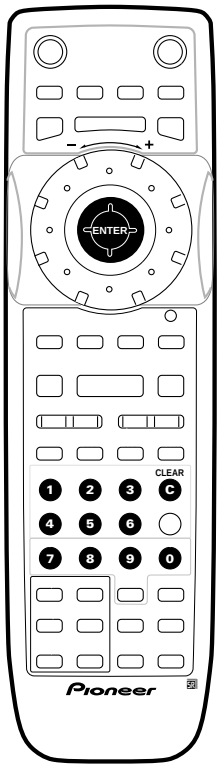
Button	What it does
TOP MENU	Displays the 'top menu' of a DVD disc—this varies with the disc.
MENU	Displays a DVD disc menu—this varies with the disc and may be the same as the 'top menu'.
RETURN	Returns to the previously displayed menu screen.
Joystick	Moves the cursor around the screen.
ENTER	Selects the currently highlighted menu option.
Numbers	Selects a numbered menu option (some discs only). (Press **ENTER** after).

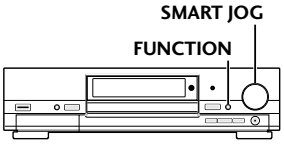
Using Video CD PBC menus

Some Video CDs have menus from which you can choose what you want to watch. These are called PBC (Playback control) menus.

You can play a PBC Video CD in non-PBC mode by pressing ►►I to start playback instead of **PLAY** ►.

Button	What it does
RETURN	Displays the PBC menu.
Numbers	Selects a numbered menu option (press **ENTER** after).
I◄◄	Displays the previous menu page (if there is one).
►►I	Displays the next menu page (if there is one).





Navigating discs

During playback you can easily jump to another title, chapter or track on a disc using the number buttons on the remote, or the Smart Jog on the front panel.

Using the remote control

Video mode

(DVD-Video) (DVD-R) (DVD-RW)

1 **While a disc is playing, use the number buttons to input a chapter number within the current title.**

For example, for chapter 6, press **6**; for chapter 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

2 **Press ENTER.**

Playback jumps to the selected chapter.

Note

- You can also navigate DVD-R/RW discs recorded in Video mode using the Title List screen. See **page 78**.

VR mode

(DVD-RW)

1 **While a disc is playing, use the number buttons to input a title number.**

For example, for title 6, press **6**; for title 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

2 **Press ENTER.**

Playback jumps to the selected title.

Note

- You can also navigate DVD-RW discs recorded in VR mode using the Discnavi screen. See **page 69**.

(Video CD) (CD)

1 **While a disc is playing, use the number buttons to input a track number.**

For example, for track 6, press **6**; for track 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

2 **Press ENTER.**

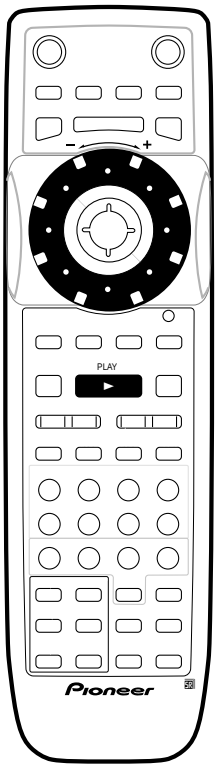
Playback jumps to the selected track.

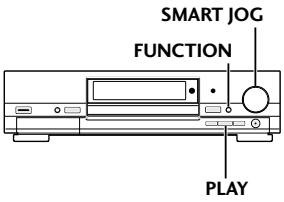
Using the front panel controls

1 **Press FUNCTION until the display shows TITLE? or CHAPTER? (DVD), or TRACK? (CD/Video CD).**

2 **Turn the SMART JOG to select a title/chapter/track number.**

After you stop turning the **SMART JOG**, playback jumps to the point specified.





Scanning discs

Using the Jog dial on the remote, you can fast-scan discs forward or backward.

Note

- Sound can be heard while scanning audio CDs.
- There are no subtitles displayed and no sound while scanning DVDs and Video CDs.
- Depending on the disc, normal playback may automatically resume when a new chapter is reached.

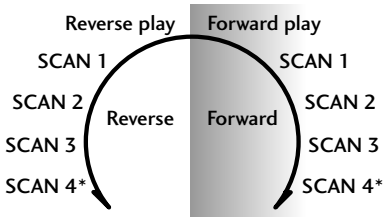
1 *Remote:* **During playback, turn the Jog dial to start scanning.**

Front panel: **During playback, press FUNCTION until the display shows PLAY, then turn the SMART JOG to start scanning.**

Turn clockwise for forward scanning; counter-clockwise for reverse scanning.

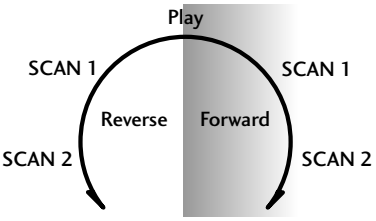
- The scanning speed is shown on-screen.

DVD



* **SCAN 4** is only available with VR mode DVD-RW discs.

Video CD CD



2 **Use the Jog dial to change the scanning speed and direction.**

3 **To resume normal playback, press ► PLAY.**

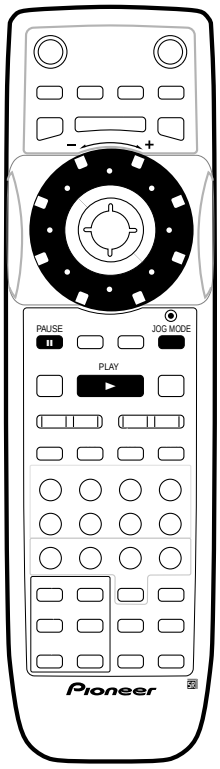
Playing in slow motion

DVD Video CD

After pausing playback, you can use the Jog dial on the remote or the **SMART JOG** on the front panel to control the direction and speed of slow motion playback.

Note

- Video CD only supports forward slow motion playback.
- The picture quality during slow motion playback is not as good as during normal playback.
- Depending on the disc, normal playback may automatically resume when a new chapter is reached.

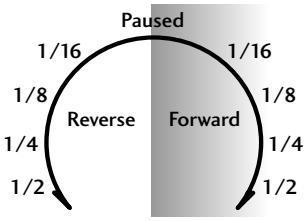


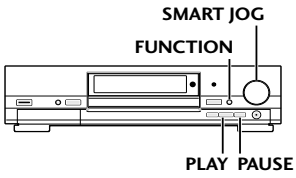
1 **During playback, press ❚❚ PAUSE.**

2 *Remote:* **Turn the Jog dial to start slow motion playback.**

Front panel: **Press FUNCTION until the display shows PAUSE, then use the SMART JOG to start slow motion playback.**
Turn clockwise for forward slow motion playback; counter-clockwise for reverse slow motion playback.

- The scanning speed is shown on-screen.
- There is no sound during slow motion playback.





3 **Use the Jog dial to change the scanning speed and direction.**

4 **To resume normal playback, press ► PLAY.**

Frame advance/frame reverse

DVD Video CD

You can advance or back up a DVD disc frame-by-frame. With Video CDs, you can only use frame advance.

Note

- The picture quality when using frame reverse is not as good as frame advance.
- Depending on the disc, normal playback may automatically resume when a new chapter is reached.

Using the remote control

1 **During playback, press JOG MODE.**
The jog mode indicator lights.

2 **Turn the Jog dial to advance/reverse a frame at a time.**
- Turn clockwise for frame advance.
- Turn counter-clockwise for frame reverse.

3 **To resume normal playback, press ► PLAY.**

Using the front panel controls

1 **Press FUNCTION until the display shows STEP?**

2 **Turn the SMART JOG to advance or back up a frame at a time.**

About DVD recording

Important

- This recorder cannot record onto CD-R or CD-RW discs.
- Pioneer takes no responsibility for recording failure due to power cuts, defective discs, or damage to the recorder.
- Fingerprints and small scratches on a disc can affect playback and/or recording performance. Please take proper care of your discs.

Disc types and recording formats, modes and settings

This recorder can play three different kinds of DVD disc: pre-recorded DVD-Video discs, DVD-RW and DVD-R discs. The disc format for DVD-R discs is always "Video format"—the same as pre-recorded DVD-Video discs. This means that once finalized, you can play a DVD-R in a regular DVD player. See **page 9** for more information.

By default, the DVD-RW disc format is Video Recording format, though you can change this to Video format, if required. (Reinitializing the disc will erase the contents of the disc.)

The recording mode is closely related to the disc format. If the disc format is Video Recording format, then the recording mode is VR mode; if the disc format is Video mode, then the recording mode is Video mode (except for DVD-Video, which is not recordable, and so does not have a recording mode).

Within the recording modes (which are fixed for the whole disc) are the record settings. These can be changed as required for each recording and determine the picture quality and how much space the recording will take up on the disc.

Recording in VR mode

When recording in VR mode, you need to first set the recording mode to **SP** (Standard), or **MN** (Manual).

In **SP** mode, the recording quality and recording time are fixed. The total recording time available on a disc recorded in **SP** mode is 120 minutes (for a 12cm/4.7GB disc).

In **MN** mode you can trade off recording quality for recording time. Recording rate levels range from 1 (360 minutes of recording per disc) to 32 (61 minutes/disc). The default setting is level 9, which gives you 240 minutes/disc. The **SP** mode is the equivalent of level 21.

The table below shows approximately how much recording time a whole disc would give at each level.

Disc type	Disc format	Recording mode	Record settings	Functions
DVD-Video	Video format	n/a	n/a	Playback only
DVD-RW	Video Recording format (default)	VR mode	**SP** (standard), **MN** (manual) - level 1-32	Playback, recording, Original/ Playlist editing
	Video format	Video mode	**V1** (high quality), **V2** (standard)	Playback, limited recording, limited editing
DVD-R	Video format	Video mode	**V1** (high quality), **V2** (standard)	Playback, limited recording, limited editing

Level 1 360 mins (Longest recording time)
Level 2 345 mins
Level 3 330 mins
Level 4 315 mins
Level 5 300 mins
Level 6 285 mins*
Level 7 270 mins
Level 8 255 mins
Level 9 240 mins
Level 10 230 mins
Level 11 220 mins*
Level 12 210 mins
Level 13 200 mins
Level 14 190 mins
Level 15 180 mins
Level 16 170 mins*
Level 17 160 mins
Level 18 150 mins
Level 19 140 mins
Level 20 130 mins*
Level 21 120 mins (Equivalent to SP recording)
Level 22 110 mins
Level 23 105 mins
Level 24 100 mins
Level 25 95 mins
Level 26 90 mins
Level 27 85 mins
Level 28 80 mins
Level 29 75 mins
Level 30 70 mins
Level 31 65 mins
Level 32 61 mins (Highest quality recording)

* As a guide, these are places where you will notice a significant change in the picture quality

Note

- The recording times shown are not exact because the recorder uses variable bit-rate video compression. This means that the exact recording time will depend on the material being recorded.
- When recording a TV broadcast, if the reception is poor or the picture contains interference, the recording times may be shorter than indicated in the above table.
- If you record still pictures or audio only, the recording time may be longer than indicated in the above table.
- The displayed times for recording and time remaining may not always add up to exactly the length of the disc.
- The recording time available may decrease if you heavily edit a disc.
- When recording from the **DV IN/OUT** jack, levels 1 through 8 are not available. If you try and select one of these levels, the recorder will automatically change the recording level to 9.

Recording in Video mode

When recording in Video mode, two quality settings are available; **V1** (high quality) and **V2** (standard). Around 60 minutes of **V1** recording will fit onto a disc, while on the **V2** setting, a disc holds about 120 minutes.

Note

- **V1** (high quality) recordings are about the same quality as a VR mode recording made on the **MN32** setting.
- Although **V2** (standard) recordings give about the same recording time as **SP** recordings in VR mode, you may notice slightly more artifacts on fast moving objects in **V2** mode.
- If using a DVD-RW disc, make sure you change the recording format to Video mode before you record anything on the disc. See **page 43** for how to do this.
- Before recording in Video mode, set the **Screen Size for Rec** option in the **Video** menu to 4:3 or 16:9 according to the program you're recording. See **page 82**.
- When using a DVD-R disc, you can keep recording until the disc is full, or until you finalize the disc. Before you start a recording session, check the amount of recording time left on the disc.
- When using a DVD-RW disc, available recording time will only increase when you erase the last title recorded on the disc.
- Recordings are made in blocks of about 30 seconds. This means that some video may be recorded after you press ■ **STOP** to stop recording.

- By default, you have to press **REC** twice to start recording on a DVD-R disc. The first press puts the recorder into record standby; the second press starts the recording. See **page 90** for how to change this setting so that Video mode recording starts with one press.
- The **Erase Title** option in the Title List screen only hides the title, it does not actually erase the title from the disc and increase the recording time available (except for the last recorded title on a DVD-RW disc).

Recording TV audio channels

This recorder can record both NICAM and regular audio. If the Tuner Audio setting (**page 84**) is set to **NICAM**, then if the broadcast is NICAM, you can choose whether to record the NICAM audio or the regular audio.

If the broadcast is non-NICAM, the regular audio is always recorded.

Restrictions on video recording

- You cannot record copy-protected video using this recorder. Copy-protected video includes DVD-Video discs and some satellite broadcasts. If copy-protected material is encountered during a recording, recording will pause or stop automatically and an error message will be displayed on-screen.
- Video that is 'copy-once only' can only be recorded using a DVD-RW disc in VR mode with CPRM (see below).
- When recording a TV broadcast or through an external input, you can display copy control information on screen. (see **page 48**).
- This recorder cannot record NTSC format signals (from the analog or the DV inputs).
- Video signals in SECAM format (from the built-in TV tuner or from the analog inputs) are recorded in PAL format.

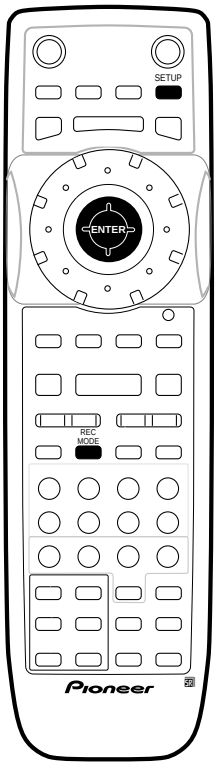
What is 'CPRM'?

CPRM is a copy protection system with scramble system regarding the recording of 'copy once' broadcast programs. CPRM stands for Content Protection for Recordable Media.

This recorder is CPRM compatible, which means that you can record copy-once broadcast programs, but you cannot then make a copy of those recordings. CPRM recordings can only be made on CPRM-compliant DVD-RW discs formatted in VR mode, and CPRM recordings can only be played on players that are specifically compatible with CPRM.

Recording equipment and copyright

- Recording equipment should be used only for lawful copying and you are advised to check carefully what is lawful copying in the country in which you are making a copy. Copying of copyright material such as films or music is unlawful unless permitted by a legal exception or consented to by the rights owner.
- This product incorporates copyright protection technology that is protected by method claims of certain U. S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision corporation. Reverse engineering or disassembly is prohibited.



Initializing a disc

If you're recording on a DVD-R disc, the recording mode will always be Video mode.

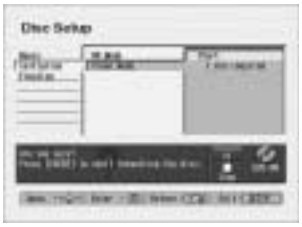
If you are using a DVD-RW disc, by default it will be VR mode. You can change this to Video mode from the Disc Setup menu.

Important

If you want to change the disc format, everything recorded on the disc will be erased.

1 **Press SETUP and select 'Disc Setup' to display the Disc Setup menu.**

2 **Select 'Video Mode' or 'VR Mode' from the sub-menu.**



3 **Select 'Start'.**

It takes about 40 seconds to initialize the disc.

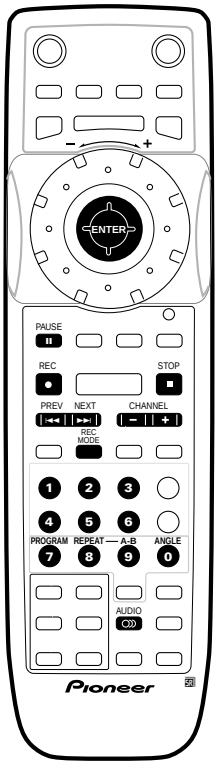
Setting up for VR mode recording

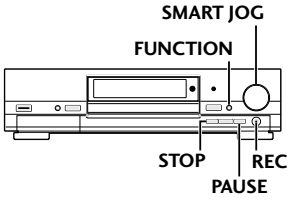
When recording a disc in VR mode, you can select either **SP** (standard) or **MN** (manual) recording. If you choose **MN**, you can set the picture quality to one of 32 different settings. See **page 40** for more information on VR mode recording.

1 **Load a disc initialized for VR mode recording.**

2 **Press REC MODE repeatedly to select either the SP (standard) or MN (manual) record setting.**

- The screen also shows the total disc recording time, the data transfer rate and the remaining recording time on disc based on the current settings.
- Select **PREVIEW** to see how the recorded picture will look.
- Press **ENTER** to select the setting displayed, or just wait until the screen disappears after a few seconds.





3 **If you selected the MN setting, set the recording rate level.**
Move the joystick left/right to adjust the level.

- Use the **PREV/NEXT** buttons to move to the previous/next preset level.
- Press **ENTER** to select the setting displayed, or just wait until the screen disappears after a few seconds.

Setting up for Video mode recording

When recording a disc in Video mode, you can select either **V1** (high quality) or **V2** (standard) recording. The **V2** setting gives approximately twice as much recording time as the **V1** setting. See **page 40** for more information on Video mode recording.

1 **Load a disc initialized for Video mode recording.**

2 **Press REC MODE.**

- The screen also shows the total disc recording time and the remaining recording time on disc based on the current settings.

3 **Move the joystick left/right or press REC MODE to select either V1 (high quality) or V2 (standard).**
- Select **PREVIEW** to see how the recorded picture will look.
- Press **ENTER** to select the setting displayed, or just wait until the screen disappears after a few seconds.

Setting the recording mode from the front panel

1 **Press FUNCTION until REC MODE? appears in the display.**

2 **Turn the SMART JOG to change the recording mode.**
Video Mode: Switch beween **V1** and **V2**

VR Mode: Switch between **SP** and **MN**

- To change the rate level in MN mode, press **FUNCTION** again, then turn the **SMART JOG**.

Adjusting the audio recording level

You can check the audio level by looking at the audio level meter on the front panel display. If it's too high or too low, you can adjust it using the **SMART JOG** on the front panel.

1 **Press FUNCTION until REC LEVEL? appears in the display.**

2 **Use the SMART JOG to adjust the level.**
Check the level meter while you do this to get the best level. If the red segments at the end of the level meter are lighting, the audio level is too high.

Basic recording from the TV

Follow the instructions below to record a TV program. Recording starts immediately and continues until the disc is full or you stop the recording.

1 Switch on the recorder and load a recordable disc.

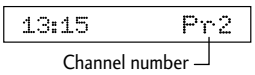
Also make sure that the TV input is set to this recorder.

- If you load a completely blank disc, the recorder takes a short while to initialize the disc.

2 Set the recording mode as necessary.

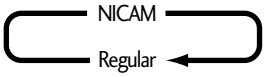
See *Setting up for VR mode recording* and *Setting up for Video mode recording* on the previous pages for detailed instructions.

3 Use the CHANNEL –/+ buttons to select the TV channel to record.



- While the recorder is stopped, you can also use the number buttons on the remote to select the channel. (For channel 6, press **6**; for channel 24, press **–/––** then **2**, **4.**)
- See **page 33** for how to select a channel using the front panel controls.

4 If the Tuner Audio setting is set to 'NICAM', press AUDIO to select the audio to record.



The table below shows the kind of audio that will be recorded with various settings (see **page 84** for how to change the Tuner Audio setting).

Broadcast audio	Tuner Audio setting	Selected audio	Recorded audio
NICAM	NICAM	NICAM	NICAM
		Regular	Regular
	Regular Audio	—	Regular
Non-NICAM	—	—	Regular

5 Set the audio recording level as necessary.

See *Adjusting the audio recording level* on the previous page for detailed instructions.

6 Press ● REC.

DVD-RW: Recording starts immediately.

DVD-R: The recorder prepares to start recording. Wait for the on-screen display to prompt, then press ● **REC** again to start recording.

- Recording continues until you press ■ **STOP** or the disc is full.
- To record for a fixed length of time, see *One touch recording* on **the following page**.

While recording:

- ❚❚ Press to pause the recording. Press again to restart recording.
  When recording in VR mode, a new chapter is created when recording is restarted.
- ■ Press to stop recording.

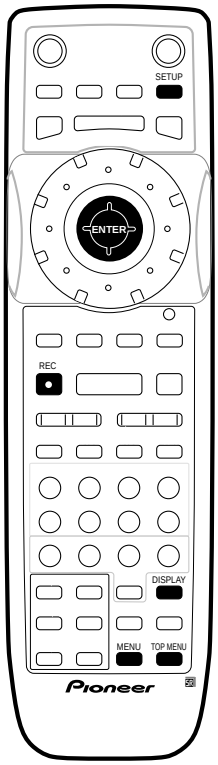
Tip

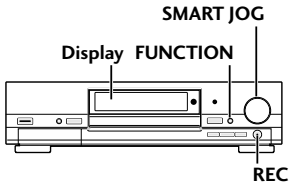
During recording you can turn on/off the SCART AV loop through function.

During recording, press **FUNCTION** (front panel only). The display shows **SCART?**; use the **SMART JOG** to select **THROUGH** (loop through on) or **NORMAL** (loop through off).

Note that you can't switch loop through to **NORMAL** if recording from the **AV2/L1** or **AV1 (RGB)-TV** connectors. Also, loop through is automatically reset to **NORMAL** after recording has finished.

Note that the Power Save setting (see **page 81**) determines whether the loop through function works when the recorder is in standby.





One touch recording

This is a simple way to set the recording time in blocks of 30 minutes. Check that the disc you're recording onto has enough space for the time you set.

When the recording finishes the recorder automatically goes into standby.

1 **Load a recordable disc.**

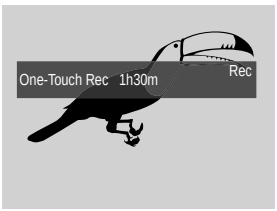
- If you load a completely blank disc, the recorder takes a short while to initialize the disc.

2 **Set the record mode, the audio channel and the audio recording level as necessary.**

See above for detailed instructions.

3 **Press REC repeatedly to set the recording time.**

Recording starts after the first press (or, by default, after the second press for a DVD-R disc). Each subsequent press increases the recording time by 30 minutes, up to a total of 6 hours. Please verify in advance the recording quality setting and the available space on the disc. The recording is made using the current recording quality settings.



Stop on the recording time you want.

- Once recording has started, you can cancel the recording time without stopping the recording by pressing **REC**.

Playing your recordings on other DVD players

Many regular DVD players can play finalized discs recorded in Video mode. A small number of players can also play DVD-RW discs recorded in VR mode, finalized or not. These players are typically identified by the designation, 'RW Compatible'. Check the manual that came with the other player to check what kinds of discs it will play.

See also **page 9** for more information.

Finalizing a disc

Finalizing 'fixes' the recordings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive.

Finalizing a Video mode disc creates a menu screen for navigating the disc. This is accessed by pressing **MENU** or **TOP MENU**.

Important

- Once you've finalized a disc recorded in Video mode, you can't edit or record anything else on that disc.
- A VR mode disc can still be recorded and edited even if it's been finalized on this recorder.

1 **Load the disc you want to finalize.**

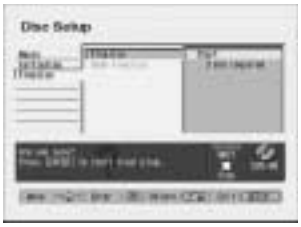
Make sure that the recorder is stopped before proceeding.

2 **Press SETUP.**

The Setup menu appears on-screen.

3 Select 'Disc Setup' from the menu.

4 Select 'Finalize' from the sub-menu.



5 Select 'Start'.

The recorder starts finalizing the disc.

- If the finalization process is going to take more than around 4 minutes, you can press **ENTER** to cancel. Around 4 minutes before completion, the option to cancel disappears.
- How long finalization takes depends on the type of disc, how much is recorded on the disc and the number of titles on the disc. A disc recorded in VR mode can take up to 1 hour to finalize. (Many 'RW compatible' players do not require a VR mode DVD-RW disc to be finalized in order to play it.) A disc recorded in Video mode can take up to 20 minutes.

Note

If you load a VR mode DVD-RW disc that has already been finalized on a different DVD recorder, you can 'un-finalize' it by choosing **Undo Finalize** from the Finalize menu. After doing this, you can edit and re-record onto the disc.

Displaying disc information on-screen

You can display various information about the disc loaded on-screen.

1 Press DISPLAY repeatedly to display/change the information displayed on-screen.

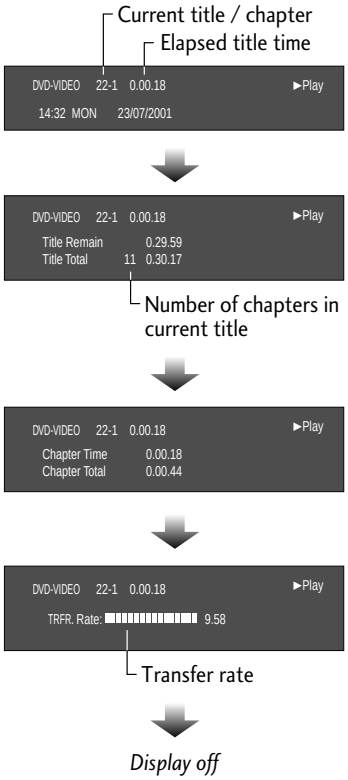
2 To remove the on-screen display, press DISPLAY repeatedly until it disappears.

See the following page for detailed explanation of each display.

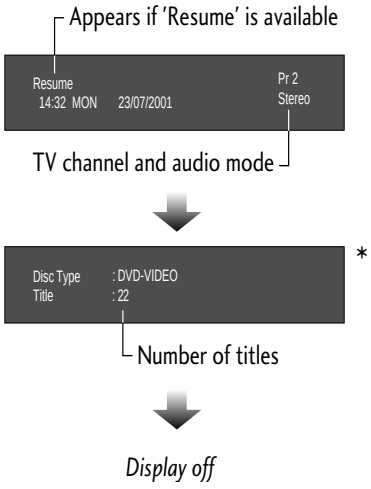
- The on-screen display automatically disappears after 150 minutes.

DVD-Video Video mode DVD-R DVD-RW

Playing



Stopped

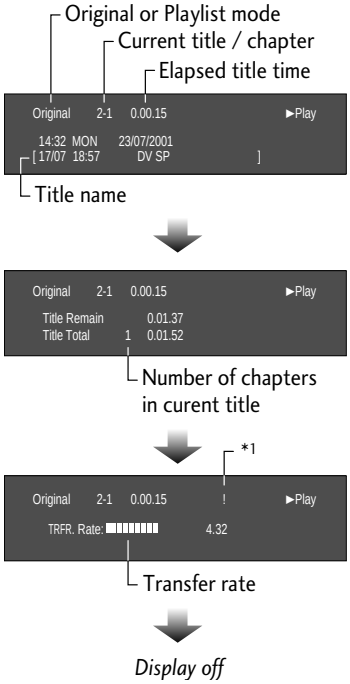


* When an unfinalized disc is loaded, the remaining recording time is also displayed.

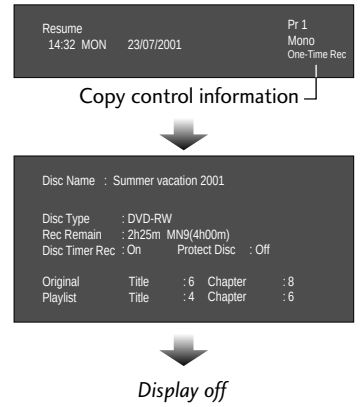
VR mode

DVD-RW

Playing



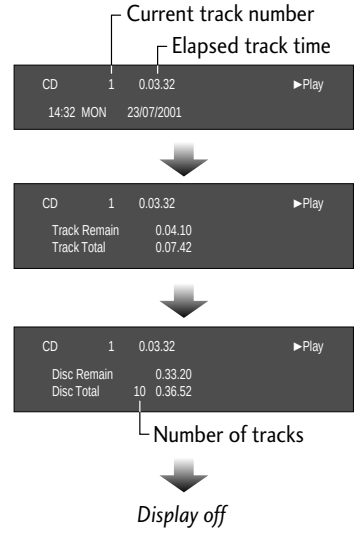
Stopped



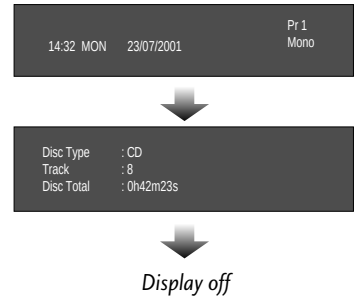
* This display is also shown when a VR mode disc is loaded.

CD

Playing



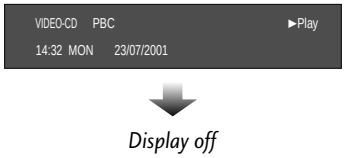
Stopped



Video CD

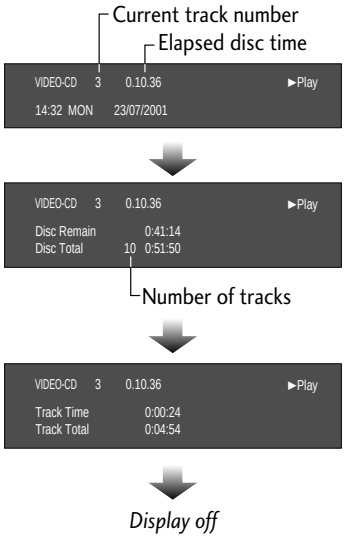
Playing

- Video CD playing in PBC mode



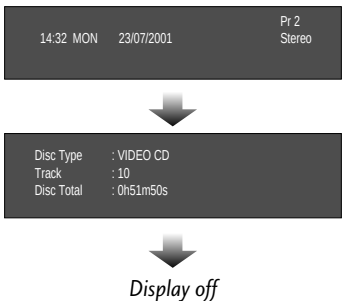
Display off

- Video CD playing in non-PBC mode



Display off

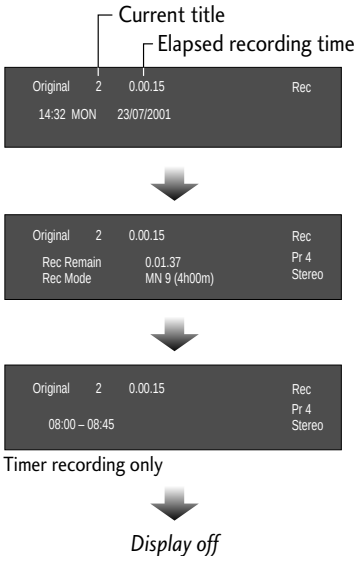
Stopped



Display off

DVD-R DVD-RW

Recording



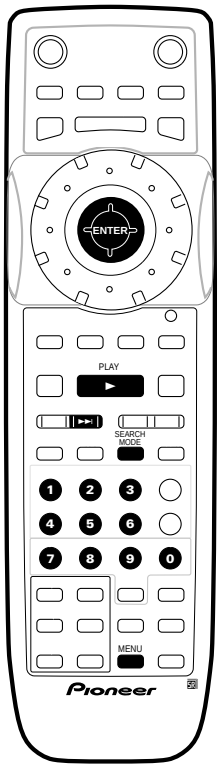
Timer recording only

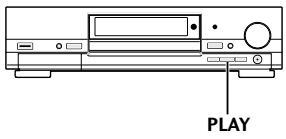
Display off

Note

**1 The '!' mark means that the content is scrambled with CPRM.*

- If **Frame Search** is **On** (see **page 90**), the frame number is shown next to the elapsed time display when the disc is paused.
- Transfer rate shows the amount of video and audio information recorded on the disc. It is not an indication of picture/audio quality.
- In the recording or stop display, **One Time Rec** or **Can't Record** may appear. This means that the TV program contains copy control information.
- The stop display of a Video mode disc becomes the same as a DVD-Video disc once the disc is finalized.
- In the recording display, the total recording time figure in parenthesis is calculated based on a 12cm/4.7GB disc at the displayed record setting.





Introduction

- When playing DVD discs, if the or icon appears on-screen when you try and use a particular function, either the player or the disc doesn't allow the use of that function.
- When playing Video CDs, some functions, such as making a program list, are not available in PBC mode. Stop the disc first, then start playback by pressing ►►I.

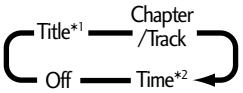
Finding what you want on a disc

You can directly access any point on a disc using one of the search modes. Use these search modes while a disc is playing, or when it's stopped. Playback jumps to the point specified.

Note

- Depending on the disc, you may also be able to search using the disc's menu. Press **MENU** to display this.
- You can't use time search with DVD-Video or Video mode discs when they are stopped.
- When using time search, playback may occassionally start slightly before or after the time you input.

1 Press SEARCH MODE repeatedly to choose between:



*1 DVD only
*2 DVD and Video CD only

2 Enter the title/chapter/track number or time (hours, minutes & seconds).

For example, for title 4, press **4**.

For chapter/track 12, press **1**, **2**.

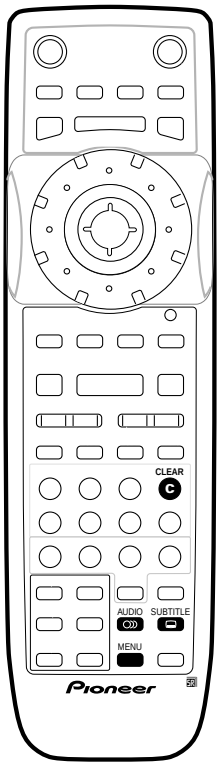
For 45 minutes into the disc, press **4**, **5**, **0**, **0**.

For 1 hour and 15 minutes and 20 seconds into the disc, press **1**, **1**, **5**, **2**, **0**.

- If **Frame Search** is **On** (see **page 90**), then you need to add a frame number to the end of the time search. For example 22 minutes, 10 seconds and 5 frames, press **2**, **2**, **1**, **0**, **0**, **5**.
- PAL video contains 25 frames per second, numbered 0 through 24.
- When using frame search with film material (recorded at 24 frames/second), accurate frame search may not be possible. This is because of the difference between the recorded frame rate and the playback frame rate.

3 Press ► PLAY or ENTER to start/restart playback.

- If you searched by frame, the recorder will pause on the selected frame.



Switching subtitles

DVD-Video

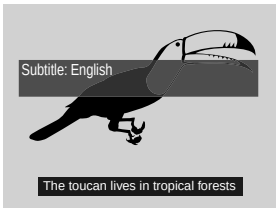
Many DVD-Video discs have subtitles in one or more languages—the disc box will usually tell you which subtitle languages are available. You can switch subtitle language anytime during playback.

Note

- Some discs will only allow you to change the subtitle from the disc's menu. Press **MENU** to display this.

1 **To display/switch the subtitle language, press SUBTITLE repeatedly.**

The current subtitle language is shown on-screen and in the front panel display.



2 **To switch off subtitles, press SUBTITLE then CLEAR.**

- To set subtitle preferences, see **page 86**.

Switching audio soundtrack

DVD-Video

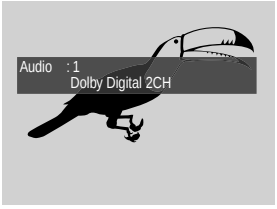
When playing a DVD-Video disc recorded with two or more soundtracks (these are often in different languages), you can switch between them anytime during playback.

Note

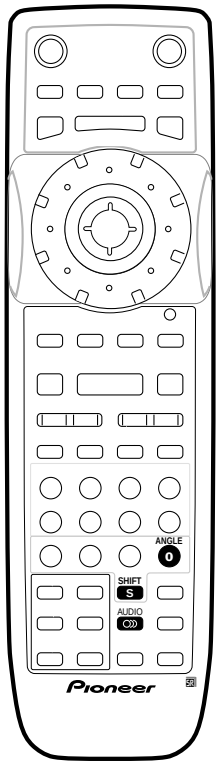
- Some discs will only allow you to change the soundtrack/language from the disc's menu. Press **MENU** to display this.
- Some discs feature both Dolby Digital and DTS soundtracks. There is no analog audio output when DTS is selected. To listen to the DTS soundtrack, connect this recorder to a DTS decoder via one of the digital outputs. See **page 18** for connection details.

1 **To display/switch the audio soundtrack/language, press AUDIO repeatedly.**

The current audio soundtrack/language is shown on-screen and in the front panel display.



- Some discs may be interrupted momentarily when you change the audio language.
- To set audio language preferences, see **page 86**.



Switching audio channel

VR mode (DVD-RW) (Video CD) (CD)

When playing Video CDs and audio CDs you can switch between stereo, just the left channel or just the right channel.

When playing a VR mode DVD-RW discs recorded with bilingual audio, you can switch between left channel (**L**), right channel (**R**), or both (**L+R**).

1 **To display/switch the audio channel, press AUDIO repeatedly.**

The audio channel(s) currently playing are indicated on-screen.

(Video CD) (CD)

VR mode (DVD-RW)

Note

When playing a bilingual recording on a VR mode disc, if you are listening to the Dolby Digital soundtrack via the digital output, you cannot switch the audio channel. Set **Dolby Digital Out** to **Dolby Digital ► PCM** (see **page 31**) or listen via the analog outputs if you need to switch the audio channel.

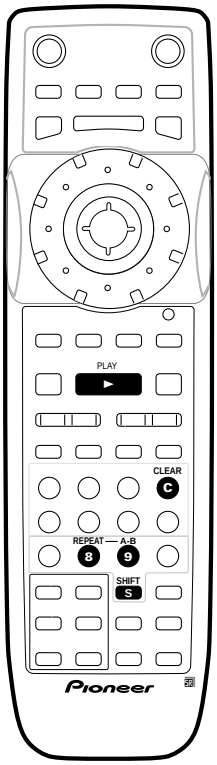
Switching camera angles

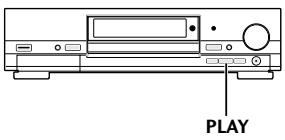
(DVD-Video)

Some DVD-Video discs feature scenes shot from two or more angles—check the disc box for details: it should be marked with a icon if it contains multi-angle scenes.

1 **To switch the camera angle, press SHIFT then ANGLE.**

- If the disc was paused, playback starts again with the new angle.
- If repeat play is on, it is canceled when you switch angle.





Using repeat play

DVD Video CD CD

You can set the player to repeat individual tracks on CDs or Video-CDs, or chapters and titles on DVD discs, or the whole disc. It's also possible to loop a section of a disc.

You can use the repeat together with program play to repeat the tracks/chapters/titles in the program list (see **page 54** for how to make a program list).

You can't use any repeat mode or looped play with a Video CD playing in PBC mode.

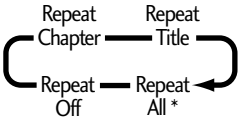
Note

If you switch camera angle during repeat play, repeat play is canceled.

1 **Press SHIFT then REPEAT during playback to select a repeat mode.**

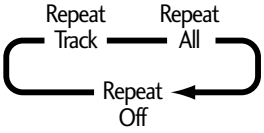
Each press (press **SHIFT** each time) changes the repeat mode:

DVD



* VR mode only

Video CD CD



2 **To resume normal playback, press CLEAR.**

Tip

You can use repeat play with program play. During program play, press **REPEAT**.

Looping a section of a disc

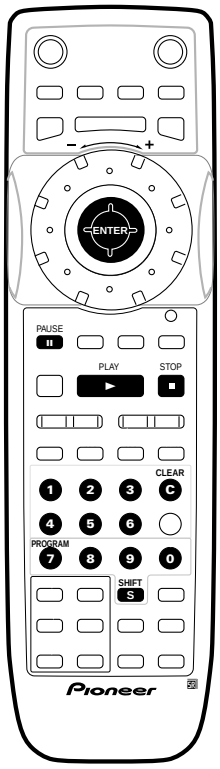
1 **Press SHIFT then A-B once at the start of the section you want to repeat, then again at the end.**

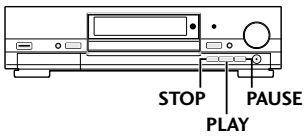
Playback immediately jumps back to the start point and plays the loop round and round.

- On a DVD disc, the start and end points of the loop must be in the same title.
- You can't loop a CD or Video CD that is playing a program list.

2 **To resume normal playback, press CLEAR.**

- You can also repeat a section of a disc just once by pressing **SHIFT** then **A–B** at the start of the section, then ► **PLAY** to jump back and repeat it.





Making a program list

DVD-Video Video CD CD

Video mode
DVD-R DVD-RW

This feature lets you program the play order of titles/chapters/tracks on a disc.

Note

Programmed playback is not available for DVD-RW discs recorded in VR mode.

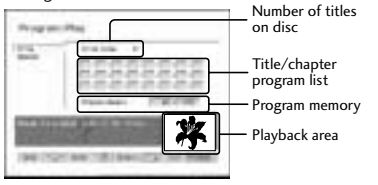
DVD-Video Video mode DVD-R DVD-RW

1 Press SHIFT then PROGRAM.

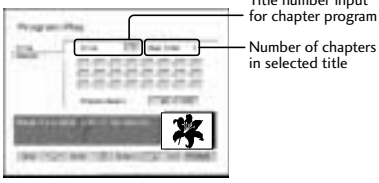
You can make a program list while the disc is playing, or when it's stopped. If it is playing, you can see the picture in the lower-right corner of the screen. Even while the Program Play screen is displayed, you can use all the normal controls for skipping chapters/tracks, scanning, and so on.

2 Move the joystick up or down to select 'Title' or 'Chapter'.

• Program titles



• Program chapters



3 Move the joystick right to the program list window.

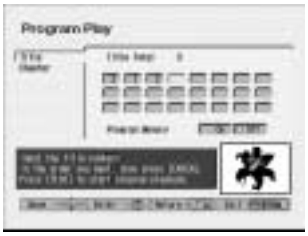
If you selected **Chapter**, move up to the Title number input box, enter a title number (all the programmed chapters will come from this title), then press **ENTER**.

4 Enter the title/chapter numbers for your program list.

For title/chapter 8, press **8**.

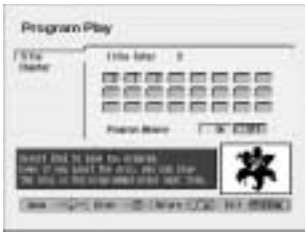
For title/chapter 16, press **1**, **6**.

Press **ENTER** after each title/chapter number.



- You can program a pause instead of a title/chapter: press **II PAUSE** instead of entering a number in the program list. (A pause can't be the first or last step in the list.)
- A program list can contain up to 24 steps.

5 If you want to save the program list, move the cursor down to 'Program Memory' and set it to 'On'.



If you do this, the program list is automatically recalled when you next load the disc.

- This feature can't be used with unfinalized discs.
- You can save program lists for up to 24 discs.

6 After entering all the titles/chapters you want, press ► PLAY to start playback.

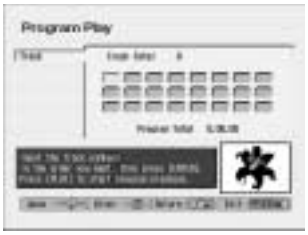
- If you want to start playback later, press **SHIFT** then **PROGRAM** to exit the program screen.
- To cancel program play (but not stop playback), press **CLEAR**.
- During program play, you may occasionally see the start of a chapter that was not programmed when the chapter number changes. This is not a malfunction.

Video CD CD

Note

For Video CDs that feature PBC, make sure that the disc is stopped before you start.

1 Press SHIFT then PROGRAM.

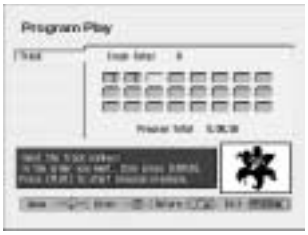


2 Enter the track numbers for your program list.

For track 8, press **8**.

For track 16, press **1**, **6**.

Press **ENTER** after each track number.



- You can program pauses between tracks: press **II PAUSE** instead of entering a number in the program list. (A pause can't be the first or last step in the list.)
- A program list can contain up to 24 steps.

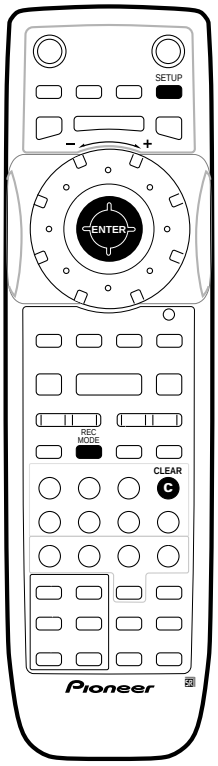
3 After entering all the tracks you want, press ► PLAY to start playback.

- If you want to start playback later, press **SHIFT** then **PROGRAM** to exit the program screen.
- To cancel program play (but not stop playback), press **CLEAR**.

Tip

- To view the program list press **SHIFT** then **PROGRAM**.
- To add the currently playing title/chapter/track to the program list, press **SHIFT** then **PROGRAM** for about a second.
  If there is no current program list, a new one is created. (For DVD, if the last program list was a title list, a title list is created, otherwise a chapter list is created. All programmed chapters must be within the same title).
- To delete a step in the program list, position the cursor on the title/chapter/track and press **CLEAR**.
- To insert a step into the program list, position the cursor where you want the new step to appear, enter the title/chapter/track number, then press **ENTER**. All the following steps move up one. (There must be fewer than 24steps in the list to do this.)
- To delete the program list, stop playback (press ■ **STOP**), then press **CLEAR**.

  The program list is also erased when you remove the disc from the player or turn the power off (standby).
- To delete a memorized DVD program list, load the DVD, press **SHIFT** then **PROGRAM**, then change the **Program Memory** option to **Off**.
- During program playback, press **SHIFT** then **PROGRAM** to display program information on-screen.



Introduction

This recorder offers two types of timer recording: standard and disc. When using standard timer recording, the timer recording information is stored in the recorder for recording onto any disc. When using disc timer recording, the timer recording information is stored on a disc so that the recording is made on that specific disc.

This recorder is compatible with VPS/PDC systems that many stations use to ensure that a timer recording catches the whole program even when the program is not running to schedule. Note that VPS/PDC may not work with all stations.

Standard timer recording

You can set up to 8 timer recording programs for scheduled recordings up to a month in advance. In addition, you can also program the recorder to record every day or every week at a specified time.

Note

The screen shots in the steps below show the on-screen displays for standard timer recording, although the instructions apply to both standard timer recording and disc timer recording. See *Disc timer recording* on **page 62–63** for more information.

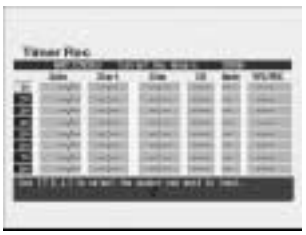
1 Load a recordable disc.

If you load a blank DVD-RW disc, it will automatically be formatted for VR mode recording. This takes around 40 seconds.

2 Press SETUP to display the Setup menu.

- If disc timer recording is active, the top menu item will be **Disc Timer Rec**.

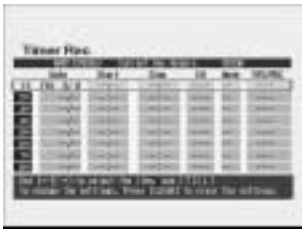
3 Select 'Timer Rec' (or 'Disc Timer Rec' if disc timer recording is active).



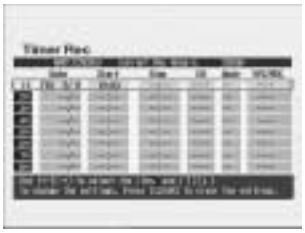
The timer recording program screen appears. From here you can set up to 8 independent timer recordings—one on each line.

4 Enter the necessary information for your timer recording(s).

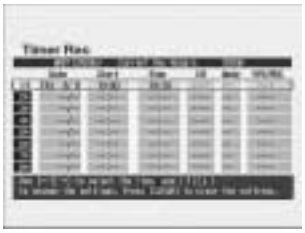
- Joystick left/right – move the cursor left/right
- Joystick up/down – change the setting at the current cursor position
- Press **CLEAR** to clear the current program
- Press **ENTER** after filling in all the program information



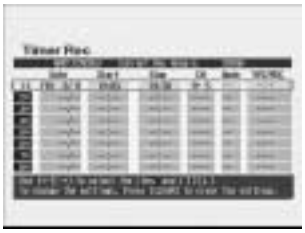
Date – Choose a date up to one month in advance, or select a daily or weekly program



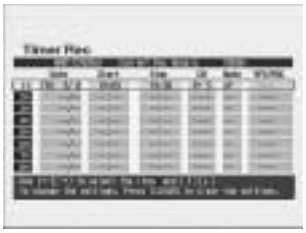
Start – Set the recording start time



Stop – Set the recording end time



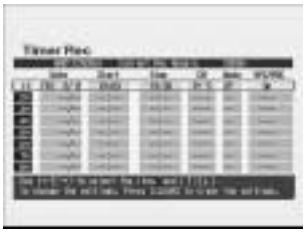
CH – Choose a channel, or one of the external inputs from which to record



Mode

For VR mode discs: Choose **SP** (standard) or **MN** (manual), then a recording level (**1**-**32**). For more on these, see **page 40**. (If recording from the DV input, you cannot set the recording mode to **MN 1** through **MN 8**.)

For Video mode discs: It is not possible to set to **V1** or **V2**. If you plan to make a Video mode recording, leave this set to **SP**, then use the **REC MODE** button afterwards to set the recording mode.



VPS/PDC

The VPS/PDC system automatically adjusts the recording time so that even if a program is not running to shedule, you won't miss it. For VPS/PDC to work properly, you must input the correct announced time and date of the program you want to record.

Note that VPS/PDC may not work with every station, and that it doesn't work when optimized recording is active (see **page 80**).

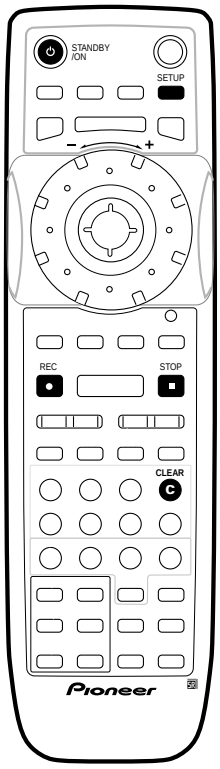
Tip

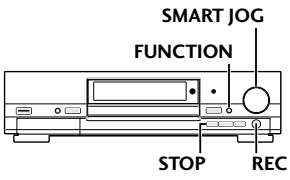
Stations that use VPS/PDC typically include VPS/PDC information in the teletext TV guide pages. Please refer to these pages when setting a timer recording.

5 After you've input all the timer information, press ENTER.

Note

- If you press **ENTER** or move the cursor back to the program number field before you've input all the program information, all the fields are cleared.





6 **When you're done, press SETUP to exit the timer recording program screen.**

7 **Make sure that you switch the recorder into standby before the timer recording is due to start.**
Timer recording will not work if the recorder is left on!

- The timer indicator lights in the front panel display when the recorder is in standby with the timer active. If the indicator is blinking it means that there is no disc loaded, or the disc loaded is not recordable.
- Before switching the recorder into standby, select the audio you want to record from the Tuner Audio setting (**page 84**).
- The recorder will automatically switch on two minutes before the timer recording is due to start.

Tip

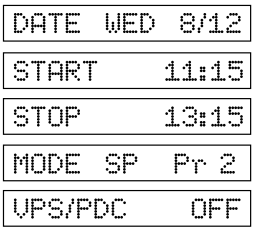
You can freely edit your timer recording program settings anytime, whether there is a recordable disc loaded or not (except for disc timer recordings). Press **SETUP**, select **Timer Rec** (or **Disc Timer Rec**) to go into the timer recording program screen, then make the necessary changes.

If you connected your system using SCART cables, you can take advantage of the 'loop through' function. This makes it possible to record a broadcast using the internal TV tuner of this recorder, while watching a VCR or other equipment connected via the **AV2/INPUT 1** SCART connector. (Make sure that the Power Save setting is set to allow this—see **page 81**.)

Checking timer recording details

1 **With the recorder stopped, press FUNCTION (front panel) until PROGRAM 1 appears in the display.**
If there are no timer recordings programmed, **PROGRAM NON** is displayed.

2 **Turn the SMART JOG (front panel) to display the timer information.**

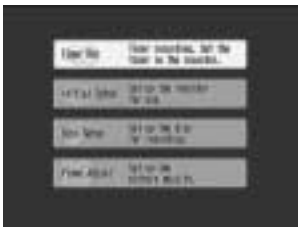


Keep turning the **SMART JOG** to see all the timer information for all the programs.

Canceling a timer recording

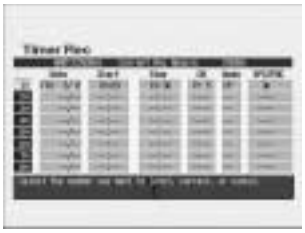
You can clear a timer setting anytime before the recording actually starts.

1 **Press SETUP to display the Setup menu.**



- If disc timer recording is active, the top menu item will be **Disc Timer Rec**.

2 Select 'Timer Rec' (or 'Disc Timer Rec' if disc timer recording is active).



3 With the program timer number highlighted, press CLEAR.
The timer information is cleared.

- When the recorder is in standby with the timer recording indicator lit, you can cancel the recording by switching on the recorder then following the above steps.
- About 2 minutes before a timer program starts, the recorder automatically switches on to prepare for recording. During this time you can cancel the program by pressing **STANDBY/ON**.

Stopping a timer recording in progress

After a timer recording has started, you can still cancel the program.

1 Press and hold ● REC for 3 seconds.
Only the program is canceled (the timer indicator disappears); recording continues.

2 If you want to stop recording completely, press ■ STOP.

Extending a timer recording in progress

If you want to adjust the stop time of a timer recording after it's started:

1 Press and hold ● REC for 3 seconds.

2 Press ● REC repeatedly to extend the recording time in 30 minute steps.
You can extend the recording time for up to 6 hours.

Timer recording troubleshooting

Even though the timer is set, the recorder will not record when:

- There is no disc loaded
- A non-recordable disc is loaded
- The disc that's loaded is protected (see **page 92**)
- There are already 99 titles recorded on the disc

You cannot enter a timer program when:

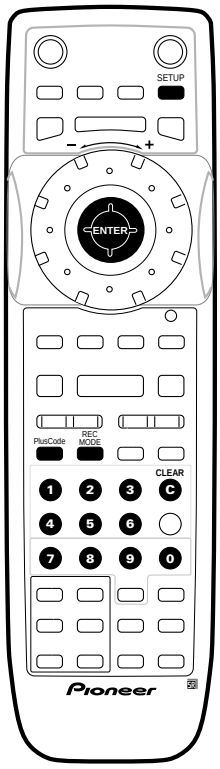
- A recording is already underway
- The clock isn't set
- The time you're trying to set has already passed
- There are already 8 timer programs set

If two or more timer programs overlap:

- The earlier program takes priority
- When the earlier timer program finishes, the later program starts (about 30 seconds later)
- With VPS/PDC off, if two programs are set to start at exactly the same time, the program entered first takes priority
- With VPS/PDC on, if two programs are set to start at exactly the same time, the program which actually starts first takes priority

Other problems:

- This recorder takes approximately 30 seconds to switch on and start recording. This means that when using VPS/PDC, there may be instances where the beginning of the program is not recorded.



Automatic timer recording using the VIDEO Plus+® programming system

This system makes programming timer recordings very simple. Most TV guides publish PlusCode numbers with their program details. If you want to make a timer recording of a program, you just input the corresponding PlusCode number. The date, start, stop and channel settings are made automatically. All you have to do is tell the recorder the recording mode and quality, and whether it's a once-only recording, or a regular recording.

Up to 8 timer programs can be stored in the recorder.

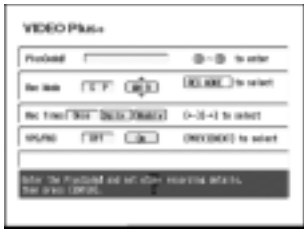
Note

The screen shots in the steps below show the on-screen displays for standard timer recording, although the instructions apply to both standard timer recording and disc timer recording. See also *Disc timer recording* on **page 62**.

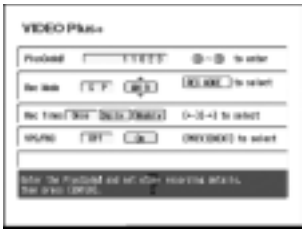
1 **Load a recordable disc.**

If you load a blank DVD-RW disc, it will automatically be formatted for VR mode recording. This takes around 40 seconds.

2 **Press the 'PlusCode' button to display the VIDEO Plus+ program screen.**

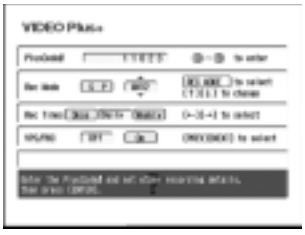


3 **Use the number buttons to enter the PlusCode programming number.**



- To clear the last digit entered, press **CLEAR**.

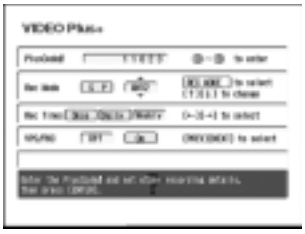
4 **Press REC MODE to change the recording quality.**



For VR mode discs: Switch between **SP** and **MN** recording. If you select **MN**, move the joystick up/down to set the recording quality.

For Video mode discs: It is not possible to set to **V1** or **V2**. If you plan to make a Video mode recording, leave this set to **SP**, then use the **REC MODE** button afterwards to set the recording mode.

5 **Move the joystick left/right to select the Once, Daily or Weekly recording option.**



Note

The VIDEO Plus+ system is only usable in the UK.

6 Use the PREV/NEXT buttons to select VPS/PDC 'On' or 'Off'.

The VPS/PDC system automatically adjusts the recording time so that even if a program is not running to schedule, you won't miss it. For VPS/PDC to work properly, you must input the correct announced time and date of the program you want to record.

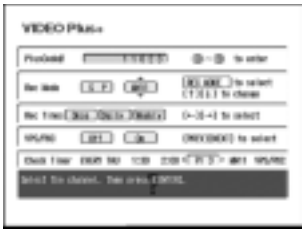
Note that VPS/PDC may not work with every station. Stations that use VPS/PDC typically include VPS/PDC information in the teletext TV guide pages. Please refer to these pages when setting a timer recording.

7 After making the settings, press ENTER.

The program details are shown at the bottom of the screen for a few seconds then the screen is automatically exited.

Note

If you haven't set up the guide channels (or at least the guide channel for the PlusCode programming number that you entered), the recorder will prompt you to enter the channel number that the TV program is showing on.



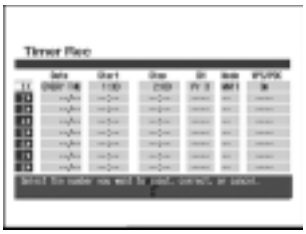
8 Make sure that you switch the recorder into standby before the timer recording is due to start.

Timer recording will not work if the recorder is left on!

- The recorder will automatically switch on two minutes before the timer recording is due to start.

Tip

- If you need to check or change anything in the program, press **SETUP**, then **ENTER** to display the timer recording program screen. From here you can check, change or clear any settings you want.



VIDEO Plus+ programming with the power off

You can enter a PlusCode programming number when the recorder is in standby.

Important

- You can't use this feature until you have set up the guide channels. See **page 28**.
- You can't change the recording mode.
- You can't program daily or weekly timer recordings.

1 Press the 'PlusCode' button.

The front panel display shows the current recording mode and prompts you to enter the PlusCode programming number.

```
SP  PlusCode#
```

2 Use the number buttons to enter the PlusCode programming number.

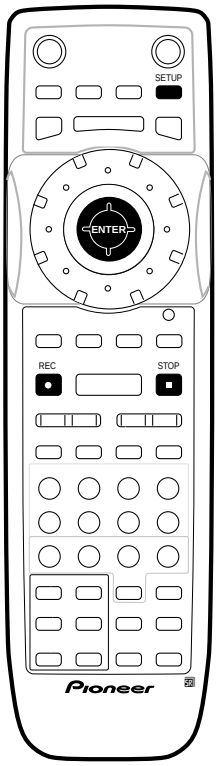
```
SP    29324
```

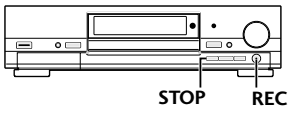
- To clear the last digit entered, press **CLEAR**.

3 Press REC MODE to switch VPS/PDC on/off as required.

4 Press ENTER.

The display shows the timer settings: Date → Start time → Stop time → Recording mode/channel → VPS/PDC on/off.





- If **CODE ERROR** appears in the display, check the PlusCode number and start again from step 1.
- If **CANNOT RECORD** appears in the display, it means that although you entered a valid PlusCode number, the program cannot be recorded for some other reason (if there is a timer recording already set for that time, for example).

Disc timer recording

VR mode

DVD-RW

Using this feature, you can store up to 8 timer recordings on the disc instead of in the recorder. This is convenient in a number of situations. For example, you might want to record consecutive episodes of a weekly TV program on the same disc. Load up a DVD-RW and turn on Disc Timer Recording, then set up a timer recording program in the normal way (using the VIDEO Plus+ programming system if you want). Now, whenever you load that disc, the timer recording program automatically becomes active.

Setting up the disc for disc timer recording

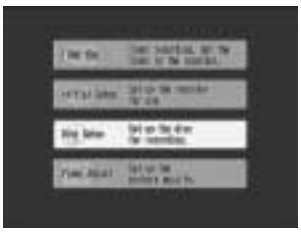
Before you can program a disc timer recording, you need to set up the disc.

1 **Load a DVD-RW disc.**

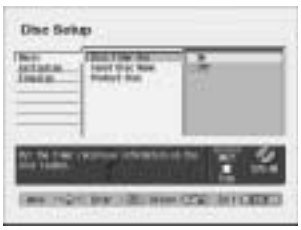
If you load a blank DVD-RW disc, it will automatically be formatted for VR mode recording. This takes around 40 seconds.

2 **Press SETUP to display the Setup menu.**

3 **Select 'Disc Setup'.**



4 **Set the 'Disc Timer Rec' option (from the 'Basic' menu) to 'On'.**



5 **Press SETUP to exit.**

The disc is now setup for disc timer recording.

- To switch off disc timer recording, set the **Disc Timer Rec** option to **Off**.
- If you eject the disc from the recorder without programming at least one disc timer program, the **Disc Timer Rec** option automatically reverts to **Off**.

Programming a disc timer recording

Once the disc is set up for disc timer recording, you can program the actual timer recording. The methods for doing this are the same as standard timer recordings: you can either enter all the information individually, or enter a PlusCode programming number.

For detailed instructions, see *Standard timer recording* on **page 56**, and *Timer recording using the VIDEO Plus+ programming system* on **page 60**.

Using a disc with disc timer recording programs

1 Load the disc in the recorder.

The display shows **RESERVED** to indicate that the disc contains timer record program information, and the **Disc Timer Rec** option is automatically set to **On**.

2 Switch the recorder into standby.

Timer recording will not work if the recorder is left on!

The recorder will automatically switch on two minutes before the timer recording is due to start.

Note

- Disc timer recordings become active if you load a disc containing disc program recordings, or set the **Disc Timer Rec** option to **On**.
- When disc timer recording is active, the standard timer recordings stored in the recorder become inactive.
- Standard timer recording becomes active if you eject a disc that contains disc timer programs or load a disc that does not contain any disc timer programs or set **Disc Timer Rec** to **Off** (in this case, any current disc programs are erased).
- You can't program disc timer recordings on a protected disc (see **page 92**).

Child lock

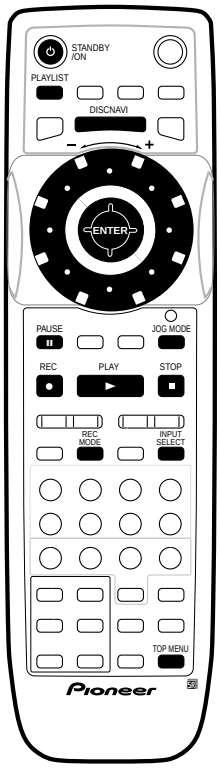
This recorder features a child lock feature that makes the front panel buttons and controls inoperative. This is useful when you have set the timer and don't want the recorder accidently turned on before the timer recording has started.

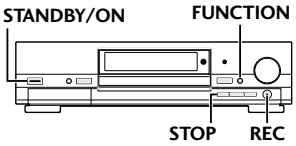
1 Put the recorder into standby.

2 Press and hold ■ STOP (front panel only) for 3 seconds to lock the controls.

The front panel display **LOCK** indicator lights.

- To unlock the controls, press and hold ■ **STOP** (front panel) for 3 seconds.
- If you press a button on the remote or front panel, the **LOCK** indicator blinks for a few seconds.
- To cancel a timer recording when the recorder is locked, first press ■ **STOP** (front panel) for 3 seconds, then press ● **REC** for 3 seconds to cancel the timer program.





Recording from an external component

You can record from an external component, such as a camcorder or VCR, connected to any of the recorder's external inputs.

1 **Make sure that the component you want to record from is connected properly to the DVD recorder.**

2 **Press INPUT SELECT repeatedly to select the external input to record from.**

Input	On-screen display
Built-in tuner	(channel number)
AV2/INPUT 1	**AV2/L1**
INPUT 2/AUTO REC	**L2**
INPUT 3	**L3**
DV IN/OUT	**DV**

- Check that the **Audio In** settings for **External Audio**, **Bilingial Recording** and **DV Input** are as you want them. See **pages 84–85**.
- If the aspect ratio is distorted (squashed or stretched), adjust on the source component or your TV before recording.

3 **Start recording.**

When recording from the **DV IN/OUT** jack, the recorder will automatically pause recording when there is no signal (for example, during blank sections of DV tape).

Note

If your source is copy-protected, you will not be able to record it using this recorder. See **page 42** for more details.

Automatic recording from a satellite tuner

If you have a satellite tuner or some other kind of set top box connected to **INPUT 2/AUTO REC** (**L2**) of this recorder, you can have the recorder start and stop recording automatically with the timer settings of the other component. (If the other component doesn't have a built-in timer, you'll need to use it with an external timer unit.)

After setting up for Auto Start Recording, this recorder starts recording when it detects a signal from the other component. When the signal ceases, the recorder stops recording.

Note

It takes a little while for this recorder to switch on and start recording after detecting a signal. Please bear this in mind when setting the timer.

1 **Set the timer for the satellite receiver (or other component), then switch off/into standby.**

Check the manual that came with the receiver if you're not sure how to do this.

2 **Load a recordable disc into this recorder.**

3 **Check that the Audio In settings for External Audio and Bilingual Recording are as you want them.**

See **pages 84–85** for more on these settings.

4 **Press REC MODE to set the recording mode.**

See **page 43–44** for dbÌÅiled instructions on setting the recording mode.

5 Press and hold FUNCTION (front panel only) until the recorder goes into standby (about 3 seconds).

The **AUTO REC** indicator on the front panel lights.

The recorder will automatically switch on and start recording when the other component comes on. Recording stops when the external component switches off.

- To cancel auto recording, press ⏻ **STANDBY/ON** to switch on this recorder. The **AUTO REC** indicator goes off.
- To cancel auto recording once recording has already started, press ● **REC** for 3 seconds, then ■ **STOP**.

Important

You can't set auto recording when:

- the recorder is recording
- there is no recordable disc loaded
- the disc loaded is protected
- the disc loaded already contains the maximum number of titles (99)
- If auto recording is set, it will not start if another timer recording is in progress.

Recording from a DV camcorder/deck

You can record from a DV camcorder/deck connected to the **DV IN/OUT** jack on the front panel of this recorder. Using the recorder's remote, you can control both the camcorder/deck and this recorder.

Before recording, make sure that the audio input for the **DV IN/OUT** jack is setup (see **page 85**).

Important

- The source signal must be DVC-SD format.
- Some camcorders/decks cannot be controlled using this recorder's remote.
- If you connect a second DVR-7000 using a DV cable, you cannot control the second unit from this one.
- You can't control this unit remotely from a component connected to the **DV IN/OUT** jack.
- You can't record date and time information from DV cassette.
- You can't record copy-protected or copy-once material.

1 Make sure your DV camcorder/deck is connected to the front panel DV IN/OUT jack.

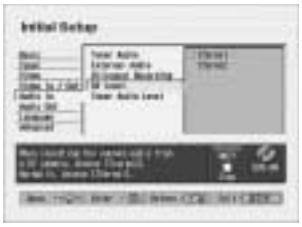
If you're using a camcorder, set it to VTR mode.

2 Set the recording mode as you require.

See **page 43–44** for how to do this.

- You cannot record in modes **MN 1** through **MN 8** when recording from the **DV IN/OUT** jack.

3 Check that the DV audio input is as you require.



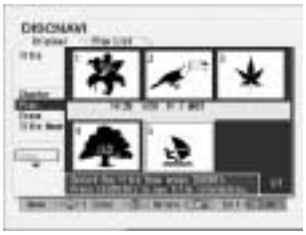
You can choose between **Stereo1** (original audio) and **Stereo2** (overdubbed audio).

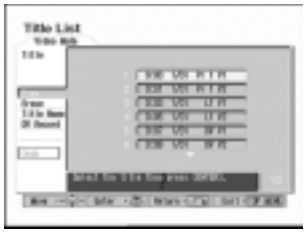
- DV Input is set from the **Audio In** sub-menu of the **Initial Setup** menu. See *DV Input* on **page 85** for more information.
- Check also that the **Audio In** settings for **External Audio** and **Bilingual Recording** are as you want them. See **page 84**.

4 Press DISCNAVI (for a VR mode disc) or TOP MENU (for a Video mode disc).

The Discnavi or Title List screen appears.

- If a VR mode disc is loaded, make sure **Original** is selected (press **PLAYLIST** to switch between **Playlist** and **Original** screens).





5 Select 'DV Record' from the menu.

Note

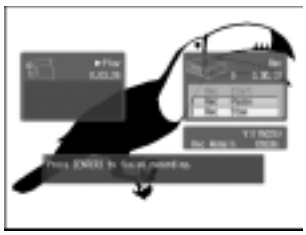
- **DV Record** only works when the DV camcorder is in VTR mode with a tape loaded.

6 Find the place on the DV tape that you want to start recording from.

For best results, pause playback at the point from which you want to record.

- Depending on your camcorder/deck, you can use this recorder's remote to control the camcorder/deck using the ■ , ► and **II** and the **Jog dial**.

7 Press ENTER to start recording.



- Recording is automatically paused if the recorder detects no signal, or a copy-protected signal. Recording restarts when there is a non-copy-protected signal.
- You can pause or stop the recording by selecting **Rec Pause** or **Rec Stop**. You cannot control the camcorder/deck from this remote control during recording.
- If you restart recording after stopping the camcorder/deck, the first few seconds of the DV tape will not be recorded. Use the pause button on your camcorder/deck instead and recording will start immediately.
- In Video mode, the final frame of the recording may remain displayed on screen for a while after selecting **Rec Stop**.
- While recording, you cannot exit the DV recording screen using the **DISCNAVI** or **RETURN** buttons.

Recording from the DV output

You can record from a non-copy-protected DVD disc to a DV camcorder/deck connected to the **DV IN/OUT** jack.

1 Connect the DV camcorder/deck to the DV IN/OUT jack of this recorder.

2 Load the disc you want to record and find the place you want to start recording from.

3 Start recording on the camcorder/deck.

4 Press ► PLAY to play the disc.

What is DV?

Using DV, also known as i.LINK, you can connect a DV equipment to this recorder using a single DV cable for input and output of audio, video, data and control signals.

The i.LINK interface is also known as IEEE 1394-1995. "i.LINK" and the "i.LINK" logo are trademarks.

- This recorder is only compatible with DV-format (DVC-SD) camcorders/decks. Digital satellite tuners and Digital VHS video recorders are not compatible.
- You cannot connect more than one DV device at a time to this recorder.
- You cannot control this recorder from external equipment connected via the **DV IN/OUT** jack (including two DVR-7000 recorders).
- It may not always be possible to control the connected camcorder/deck via the **DV IN/OUT** jack.
- Only output from DVD discs is available from the **DV IN/OUT** jack; the built-in TV tuner, CD, Video CD and other inputs are not output through the **DV IN/OUT** jack.
- Copy-protected or copy-once DVD signals are not output from the **DV IN/OUT** jack.
- DV camcorders/decks can usually record audio as stereo 16-bit/48kHz, or twin stereo tracks of 12-bit/32kHz. This recorder can only record one stereo audio track. Set **DV Input** to **Stereo1** or **Stereo2** as required (see **page 85**).
- Audio output from the **DV IN/OUT** jack is 16-bit only.
- Audio input to the **DV IN/OUT** jack should be 32 or 48kHz (not 44.1kHz).
- Picture disturbance in the recording may occur if the source component pauses playback or plays an unrecorded section of tape, or if the power fails in the source component, or the DV cable becomes disconnected.

DV-related messages

You may see the following messages appear on your TV screen when using the **DV IN/OUT** jack.

'No DV camera connected'
The camcorder/deck is not connected properly, or the camcorder is switched off.

'The DV camera is recording'
The camcorder/deck is recording, so you cannot start recording from the camcorder/deck to this recorder.

'You can't connect more than one DV camera at the same time'
The DV jack on this recorder supports connection to just one camcorder/deck.

'No tape in the DV camera'
There is no cassette loaded into the connected camcorder/deck.

'The DV camera is recording or is record-paused'
The camcorder/deck is either in camera mode or record-pause mode. Put it into VTR mode.

'DV camera playback canceled'
Playback unexpectedly stopped due to the tape running out, etc.

'Cannot operate the DV camera'
This recorder cannot control the camcorder/deck. Try switching off the camcorder/deck then switching it back on.

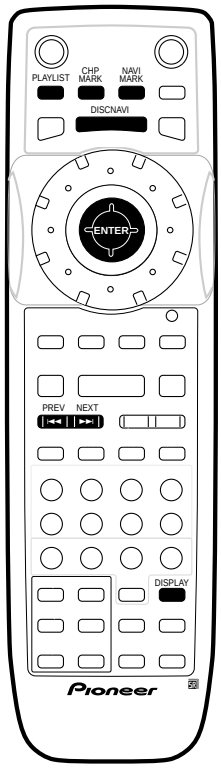
'Could not operate the DV camera'
This recorder could not control the camcorder/deck.

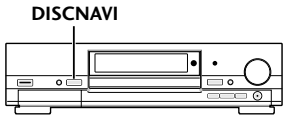
Troubleshooting

If you can't get a picture and/or audio through the **DV IN/OUT** jack, check the following points:

- If the source signal is copy-protected, it is not output through the **DV IN/OUT** jack.
- Make sure the DV cable is properly connected.
- Try switching off the connected equipment then switch back on.
- Try switching the audio input.

Note
Depending on the connected camcorder/deck, you may not be able to control it using the remote control supplied with this recorder.





Original and Playlist editing

VR mode

DVD-RW

Edits you make to the Original content changes the actual content of the disc. For example, if you erase a title from the Original content, that title is erased from the disc, freeing up extra recording time.

When you edit the Playlist, on the other hand, you are not changing the content of the disc. For example, when you erase a title from the Playlist, you are just telling the recorder not to play that title; nothing is actually erased from the disc.

Titles, chapters and parts

Titles in the disc's original content contain one or more chapters. When you insert a title into the Playlist, all the chapters within that title also appear. In other words, chapters in the Playlist behave exactly as chapters on a DVD-Video disc do.

Parts are sections of Original or Playlist titles. From the Discnavi you can add or erase parts. Adding a part to the Playlist creates a new title made up of a section (ie., part) of an Original title. Erasing a part removes part of a title from the Original or Playlist.

Important

- When editing using the erase, add and move functions, the start and end frames may not be exactly as set in the start and end point display.
- During Playlist playback, you may notice a momentary pause between edits. This is not a malfunction.

Adding chapter markers

VR mode

DVD-RW

You can put a chapter marker anywhere in a Playlist or Original title during recording or playback. Once the chapter is marked, you can use the chapter search feature, as well as erase, combine and move chapters in the Discnavi. You can insert up to 999 chapter markers in both the Original and Playlist contents.

Note

- In Video mode, chapter markers are inserted at regular intervals automatically. You can change this interval from the Initial Setup menu (see *Chapter Interval* on **page 91**).

1 Play the title (Original or Playlist).

- Press **PLAYLIST** to switch between Playlist and Original playback.

2 At the point you want to start a new chapter, press CHP MARK.

A chapter marker icon ( ) appears on-screen.

- You can also put chapter markers in during recording.

Using the Discnavi

VR mode
DVD-RW

The Discnavi (Disc Navigator) is where you build and edit your Playlist, and where you can erase titles and make other changes to the Original content of the disc. You can also play individual titles directly from the Discnavi, and record material from a DV camcorder.

The recorder must be stopped in order to edit using the Discnavi.

1 Press DISCNAVI to display the Discnavi.

- Press **DISPLAY** to display more detailed title information for each title.
- Use the **PREV/NEXT** buttons to display the previous/next page if there are more than 6 titles/ chapters.
- To exit the Discnavi, press **DISCNAVI** again.

2 To switch between the Original and Playlist Discnavi screens, press PLAYLIST.

The **Original** and **Play List** tabs at the top of the screen indicate which you are in.

The left side of the screen shows the Discnavi's functions. The main part of the screen shows thumbnails of the titles on the disc.

3 To switch to chapter view, select 'Chapter', then select the title you want to view chapters for.

The main part of the screen now shows thumbnails of the chapters in the title you selected.

- To switch back to title view, select **Title** from the menu on the left.

Changing the Discnavi title thumbnail

VR mode
DVD-RW

Each title and chapter displayed in the Discnavi is represented by a thumbnail picture taken from the start of that title or chapter.

If you prefer, select a different still picture from within a title.

Note

You can only change the title thumbnail. It is not possible to change the chapter thumbnails.

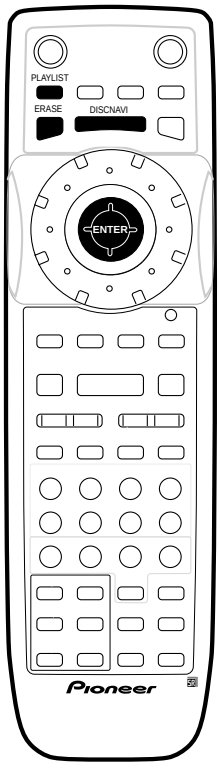
1 Play the title (Original or Playlist).

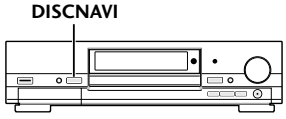
2 Press NAVI MARK to make the currently displayed picture the one that appears in the Discnavi.

The still picture that you choose appears in both the Original and Playlist screens of the Discnavi.

Tip

You can also change where the still picture is automatically taken from. See *Navi Mark* on **page 90**.





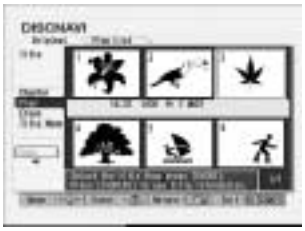
Playing a chapter or title

VR mode

DVD-RW

1 If you want to play a chapter, switch to chapter view.

2 Select 'Play' from the Discnavi menu.



3 Choose the title or chapter you want to play.

Naming a title

VR mode

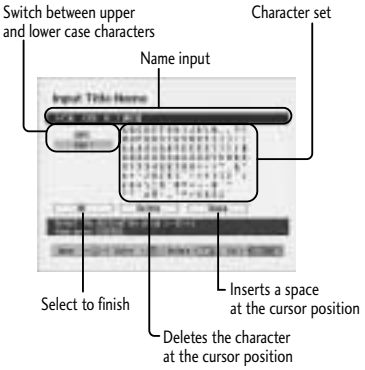
DVD-RW

You can name Original and Playlist titles independently. Names can be up to 64 characters long.

1 Select 'Title Name' from the Discnavi menu.

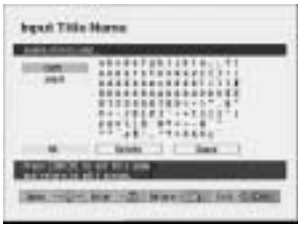
2 Choose the title you want to name.

3 Enter a name for the selected title.


Switch between upper and lower case characters
Character set
Name input
Select to finish
Inserts a space at the cursor position
Deletes the character at the cursor position

- A name generated automatically by the recorder will already be in the name input section of the screen. Move the joystick left/right to change the cursor position.
- You can also use the **ERASE** button to delete characters directly.
- Names can be up to 64 characters long.
- For discs formatted on a different DVD recorder, you will see only a limited character set.

4 Choose OK to fix the name and return to the Discnavi main screen.



Making a new Playlist title

VR mode

DVD-RW

Use this function to add an Original title to the Playlist. When you do this, the whole title is put into the Playlist (you can erase bits you don't need later—see *Erasing a part from the Original or Playlist* on **page 73**).

The title appears in the Playlist complete with the chapter markers that appear in the Original. However, if you add more chapter markers to the Original later, these are not automatically copied over into the Playlist title.

You can add up to 99 titles to the Playlist.

If you only want to add a section of a title, use the Add Part function—see *Adding a part to the Playlist* on **page 72**.

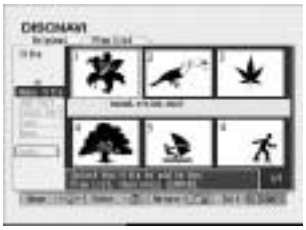
1 Select 'Make Title' from the Discnavi Playlist menu.

2 Choose where to insert the new title.

If there are no titles in the Playlist yet, you can only make a title at the start of the Playlist.

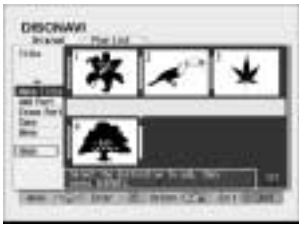
If there are already titles in the Playlist, choose where the new title will go.

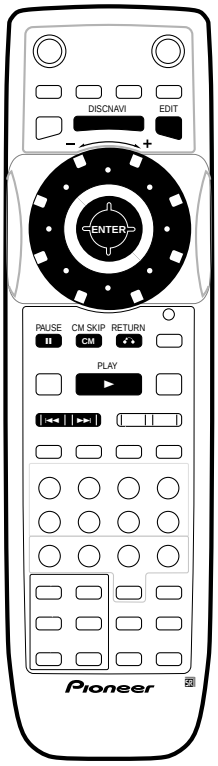
3 Choose an Original title to put into the Playlist.

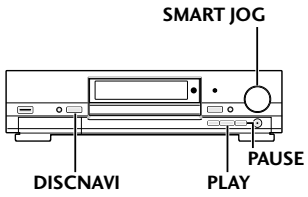


4 Press ENTER to select the title.

The new title appears in the updated Playlist.





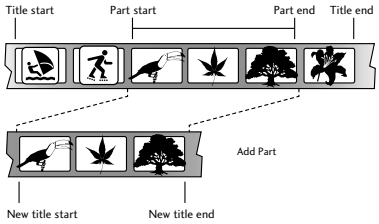


Adding a part to the Playlist

VR mode

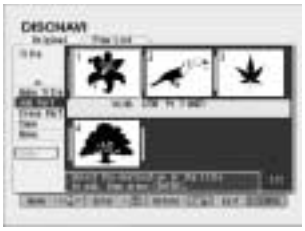
DVD-RW

You can define part of an Original title as a new title to add to the Playlist.



1 Select 'Add Part' from the Playlist Discnavi menu.

2 Choose where to insert the new part.

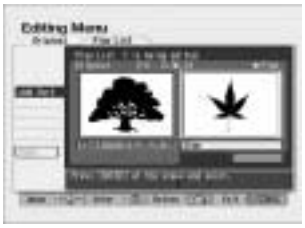


You can insert a part as a new title between existing titles in the Playlist, or insert a part into one of the Playlist titles as a new chapter.

3 Define the start point of the part.

Use the ►, I◄◄, ►►I, **II** and **CM SKIP** buttons and the **Jog dial** (for slow and fast scanning and frame advance) to find the place you want. Press **ENTER** to mark the scene start.

4 Define the end point of the part.



Do this in the same way as the start point. Press **ENTER** to mark the end point.

- You can go back and forth between the start and end points to fine-tune as necessary.

7 When you're done, select 'OK' to add the part.

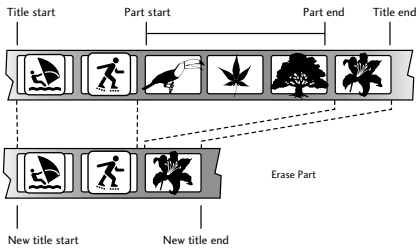
8 Press DISCNAVI to exit, or RETURN to go back to the main Playlist screen.

Erasing a part from the Original or Playlist

VR mode

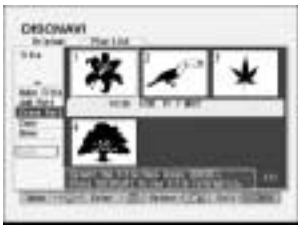
DVD-RW

Using this function, you can erase a part of a title currently in the Original content or the Playlist.

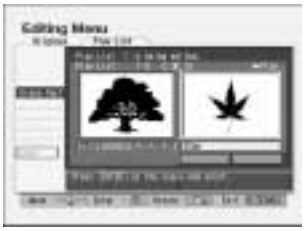


When you erase a part from the playlist, nothing is actually erased from the disc. When you erase a part from the original, that part of the title is deleted from the disc—if it was also in the Playlist, it is also erased from there. When you erase a part longer than about one minute (the actual length depends on the recording rate) from the Original, the available recording time increases. Parts shorter than this don't get added to the available recording time.

1 Select 'Erase Part' from the Original or Playlist Discnavi menu.

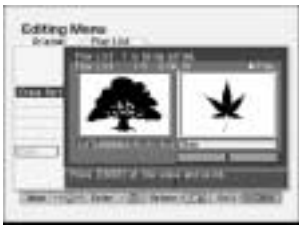


2 Define the start point of the part to erase.



Use the ▶, I◀◀, ▶▶I, **II** and **CM SKIP** buttons and the **Jog dial** (for slow and fast scanning and frame advance) to find the place you want. Press **ENTER** to mark the scene start.

3 Define the end point of the part.



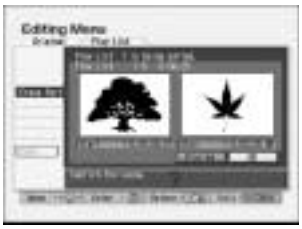
Do this in the same way as the start point. Press **ENTER** to mark the end point.

- You can go back and forth between the start point and the end point to fine-tune as necessary.
- You may not be able to erase parts from the Original which are less than 5 seconds long.

4 To preview the part, select 'Preview'.
The part plays in the part end window. If necessary, go back and change the start or end point.

- The preview starts 3 seconds before the part start point and ends 3 seconds after the part end point.

5 When you're done, select 'OK' to erase the part.

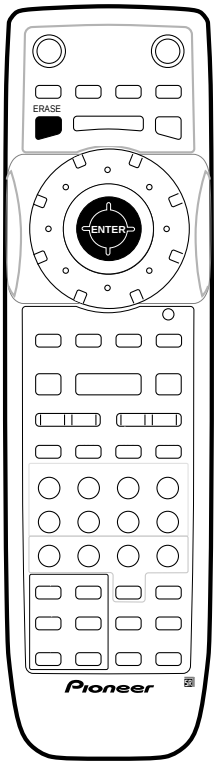


- A chapter marker is automatically inserted at the cut point.

6 Press DISCNAVI to exit, or RETURN to go back to the main Playlist screen.

Tip

Press **EDIT** during playback to jump directly to step 2 above.



Erasing an Original or Playlist title/chapter

VR mode

DVD-RW

When you erase a title or chapter from the Discnavi's Playlist screen, you only remove it from the Playlist; the title/chapter remains in the Original title/chapter list.

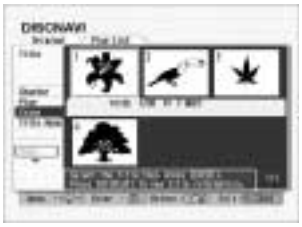
If you choose to erase a title or chapter from the Original title/chapter list, the title or chapter is actually erased from the disc and the remaining time available for recording increases. Titles/chapters erased from the Original are also removed from the Playlist.

Note

It may not be possible to erase chapters that are less than 5 seconds long.

1 **If you want to play a chapter, switch to chapter view.**

2 **Select 'Erase' from the Original or Playlist Discnavi menu.**



3 **Select the title you want to erase.**

After pressing **ENTER**, the new, updated title list is displayed.

Tip

Press **ERASE** to jump directly to step 3 above.

Erasing all Original titles

VR mode

DVD-RW

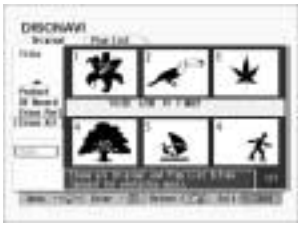
This erases all unprotected titles from the disc and frees up the space for additional recording. If any of these titles appear in the Playlist, then they will also be removed from the Playlist.

See also *Protecting/unprotecting an Original title* on **page 75**.

Note

Disc program recording information that is on the disc will not be affected by this operation.

1 **Select 'Erase All' from the Original Discnavi menu.**



After pressing **ENTER**, only protected titles remain.

Moving a Playlist chapter or title

VR mode

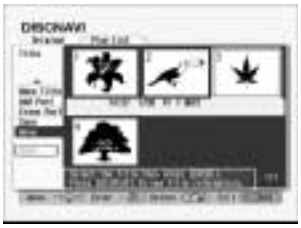
DVD-RW

Use this function to re-arrange the playing order of Playlist titles or chapters within a title.

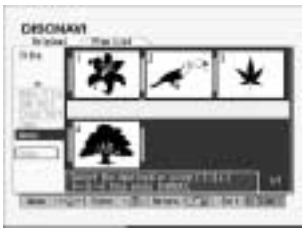
1 **If you want to move a chapter, switch to chapter view.**

2 **Select 'Move' from the Playlist Discnavi menu.**

3 **Select the title or chapter you want to move.**



4 **Choose the place you want to move the title or chapter to.**



After pressing **ENTER**, the new, updated Playlist is displayed.

Protecting/unprotecting an Original title

VR mode

DVD-RW

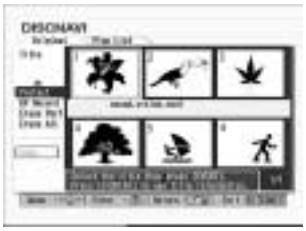
You can protect a title so that it can't be edited accidently. If you do need to edit it, you can always unprotect it later.

Important

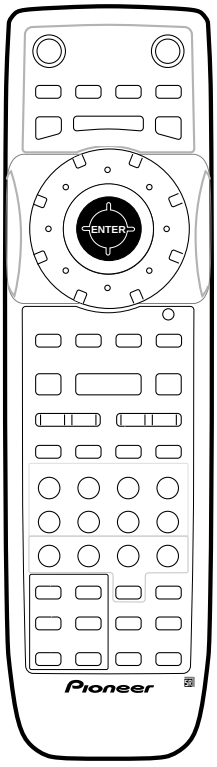
You cannot undo any edits made before changing the protect status. You also cannot undo a protect/unprotect function.

1 **Select 'Protect' from the Original Discnavi menu.**

2 **Select the title you want to protect (or unprotect).**



An unprotected title will become protected; a protected title will be unprotected. Protected titles are shown in the Discnavi with a padlock icon.



Copying a Playlist title

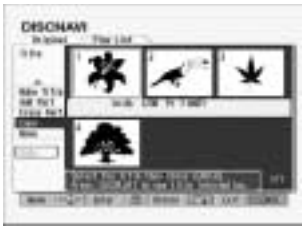
VR mode

DVD-RW

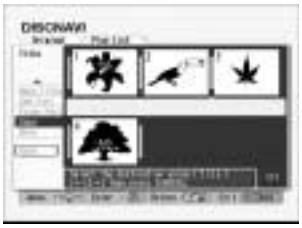
Using this function, you can paste a copy of a title anywhere into the Playlist.

1 **Select 'Copy' from the Playlist Discnavi menu.**

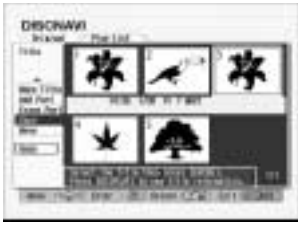
2 **Select the title you want to copy.**



3 **Choose the place you want to paste the title.**



After pressing **ENTER**, the new, updated Playlist is displayed.



Combining two chapters into one

VR mode

DVD-RW

Use this function to combine two adjacent Playlist or Original chapters into one.

Note

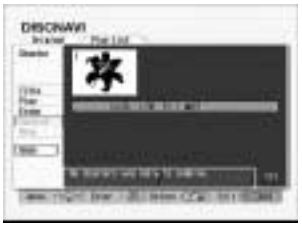
- This function is not available if there is only one chapter in the title.
- You can't combine two chapters that were created by erasing a part from an original title.

1 **Make sure that chapter view is selected in the Original or Playlist Discnavi.**

2 **Select 'Combine' from the menu.**

3 **Choose the dividing line between the two chapters you want to combine.**

After pressing **ENTER**, the new, updated Playlist is displayed.



Undoing the last edit

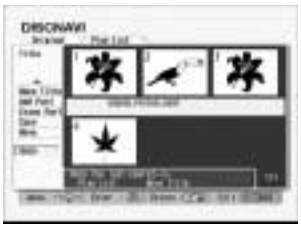
VR mode

DVD-RW

If you make a mistake while editing, you can undo it. There are three levels of undo (in other words, you can undo the last three edits you made).

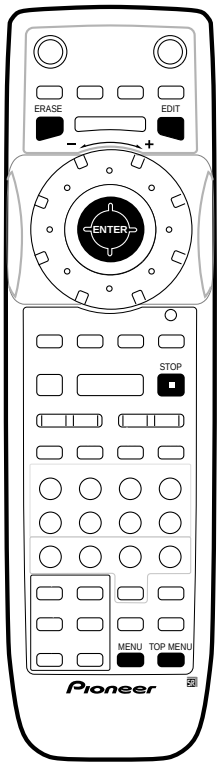
1 Select 'Undo' from the Discnavi menu.

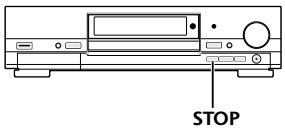
It doesn't matter whether you are currently in the Original or Playlist Discnavi screen; the last edit is undone.



Note

- You can't undo a recording
- You can't undo anything after ejecting the disc from the recorder or switching the recorder into standby
- You can't undo a protect/unprotect operation
- You can't undo edits made after initializing or finalizing a disc, protecting or unprotecting, or using the preview function in either the Record Mode screen (**page 43–44**), or the **Rec NR** setting screen (**page 95**)
- You can still undo edits after exiting the Discnavi screen





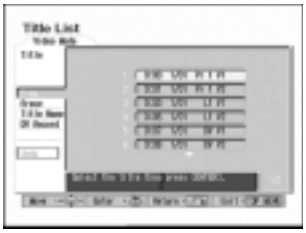
What you can do from the Title List menu

Video mode
DVD-R DVD-RW

From the Title List screen you can play, name and erase titles and record from a camcorder connected to the front panel **DV IN/OUT** jack.

Once a Video mode disc is finalized, the Title List screen changes its appearance and all you can do is select titles to play.

1 **Press TOP MENU or MENU to display the Title List.**
If the disc is not finalized, you should see a screen like the one below.



If the disc has already been finalized, you should see a screen like the one below.

- Editing can only be done when the disc is stopped.
- To exit the Title List screen, press **TOP MENU** or **MENU** again.

2 **Use the joystick to move the cursor around the screen. Press ENTER to select the highlighted option.**
Other controls for the Title List are shown at the bottom of the screen.

Playing a title

Video mode
DVD-R DVD-RW

1 **Press MENU or TOP MENU to display the Title List.**

2 **Use the joystick to select a title.**

3 **Press ENTER to play the selected title.**

Naming a title

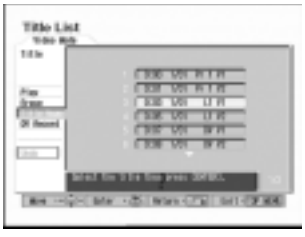
Video mode
DVD-R DVD-RW

1 **If the disc is playing, press ■ STOP to stop playback.**

2 **Press MENU or TOP MENU to display the Title List.**

3 **Select 'Title Name' from the Title List menu.**

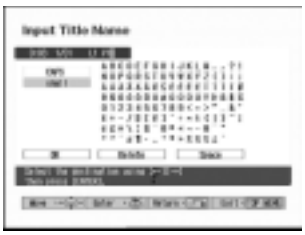
4 **Choose the title you want to name.**



Tip

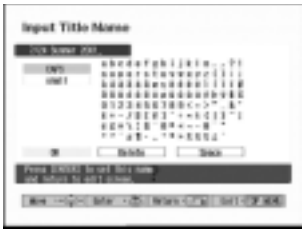
If the disc is stopped, you can press **EDIT** to jump directly to this step.

5 Enter a name for the selected title.
Names can be up to 24 characters long.



- For discs formatted on a different DVD recorder, you will see only a limited character set.

6 Choose OK to fix the name and return to the Title List screen.



Erasing a Title

Video mode
DVD-R DVD-RW

Before a disc is finalized, you can erase titles recorded on the disc.

Important

- If you erase a title from a DVD-R disc, the title will disappear from the Title List screen, but the available recording time does not increase.
- Erasing a title from a DVD-RW disc, the remaining time available for recording only increases if it is the last title on the disc.

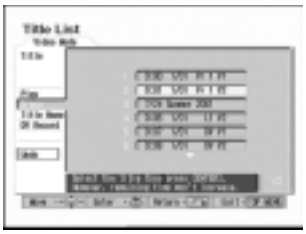
1 If the disc is playing, press ■ STOP to stop playback.

2 Press MENU or TOP MENU to display the Title List.

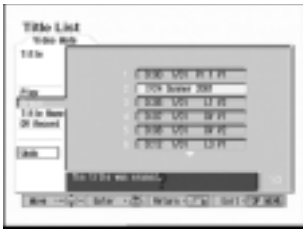
- Alternatively, you can press **ERASE** and go straight to step **4**.

3 Select 'Erase Title' from the Title List menu.

4 Choose the title you want to erase.

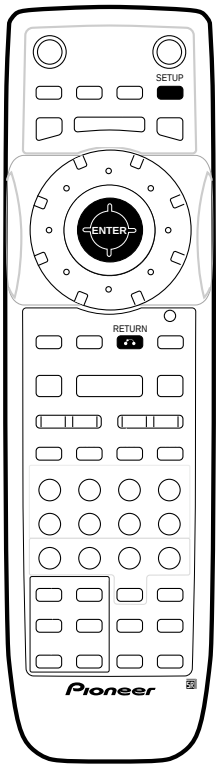


After pressing **ENTER**, the new, updated Title List is displayed.



Tip

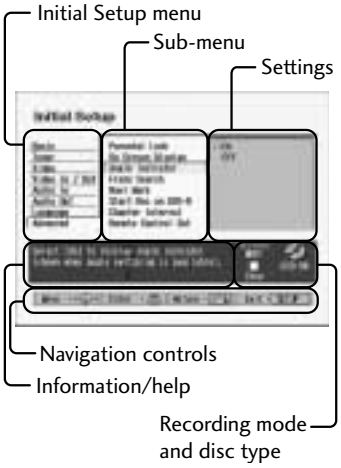
If the disc is stopped, you can press **ERASE** to jump directly to this step.



Using the Initial Setup menu

The Initial Setup menu is where you can set various recorder options for sound, picture, language and so on.

1 **Press SETUP and select 'Initial Setup'.**



- Some settings can only be changed when the recorder is stopped. During playback these settings are shown in outline in the Initial Setup menu.
- The menu screen is exited automatically after 20 minutes of inactivity.

Basic settings

Clock Setting

- Default: **--:--** *(not set)*

See page 28–30 for detailed instructions on setting the clock.

Optimized Rec

- Default: **Off**

On the default setting, if a timer program (standard, disc or VIDEO Plus+ programming system) is set but there isn't enough space on the disc at the recording quality set, the recording will start, but it will be cut off when the disc is full. Set **Optimized Rec** to **On** to have the recorder automatically adjust the recording quality to fit the available disc space.

Note

- You may notice a reduction in picture quality if the recorder has to fit a lot of extra material into the remaining time available on the disc.
- **Optimized Rec** only applies to VR mode recordings.
- If, even on recording level **MN 1** (**MN 9** for the DV input), there is insufficient space available on the disc, the recording is made at level **MN 1** (or **MN 9**) but recording will stop once the disc is full.
- Optimized Recording can only compensate for one timer program.

Direct TV Recording

- Default: **Off**

For this feature to work, your TV must be connected to this recorder using a SCART cable, and your TV must support direct recording. See also the manual that came with your TV.

When Direct TV Recording is **On**, you can record whatever you're watching at the time on the TV without having to manually set the record channel on this recorder.

Power Save

- Default: **Off**

When set to **Off**, signals arriving at the **ANTENNA IN** terminal and at the **AV2/INPUT 1** AV connector are passed through to the **ANTENNA OUT** terminal and to the **AV1 (RGB)-TV** AV connector, respectively, when the recorder is in standby.

You can cut the standby power consumption of the recorder by switching off this through function to one or both terminals.

- **Mode 1** – No through function
- **Mode 2** – Through function only for the antenna terminal
- **Off** – Through function for both antenna terminal and AV connector

Tuner settings

Auto Channel Setting

- Default: **Auto Scan**

See page 24 for detailed instructions on automatic channel setting.

Manual CH Setting

- Default: **n/a**

See page 26 for detailed instructions on this setting.

Channel Swapping

- Default: **n/a**

See page 27 for detailed instructions on this setting.

VIDEO Plus+ CH Setting

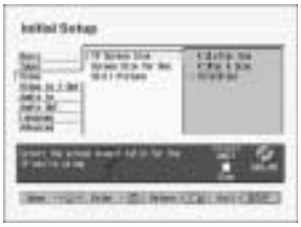
- Default: **n/a**

See page 28 for detailed instructions on this setting.

Video settings

TV Screen Size

- Default: **16:9 (Wide)**

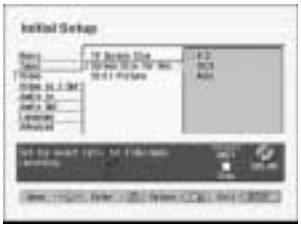


If you have a widescreen TV, select the **16:9 (Wide)** setting—widescreen DVD software is then shown using the full screen area. When playing software recorded in conventional (4:3) format, the settings on your TV will determine how the material is presented—see the manual that came with your TV for details on what options are available.

If you have a conventional TV, choose either **4:3 Letter Box** or **4:3 Pan & Scan**. In Letter Box mode, widescreen software is shown with black bars at the top and bottom of the screen. Pan & Scan chops the sides off widescreen material to make it fit the 4:3 screen (so even though the picture looks larger on the screen, you're actually seeing less of the movie). See **page 105** for more information.

Screen Size for Rec

- Default: **4:3**



When recording in Video mode, you can set the recording aspect ratio to suit the material you're recording (16:9 widescreen, or 4:3 standard).

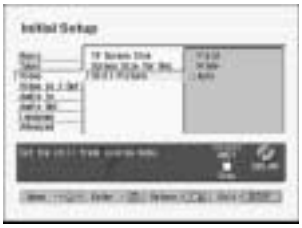
Set to **Auto** to record programs in the aspect ratio that they are broadcast.

Note

On the **Auto** setting, the aspect ratio is fixed at the point you start recording. This may cause problems if, for example, you start recording when commercials are showing (which are typically 4:3 aspect ratio), but the program you want to record is 16:9. In this case, manually set to **16:9**.

Still Picture

- Default: **Auto**



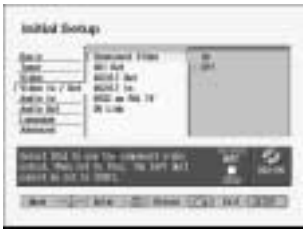
The recorder uses one of two processes when displaying a still frame from a DVD disc. The default **Auto** setting automatically chooses the best setting each time.

- **Field** – produces a stable, generally shake-free image.
- **Frame** – produces a sharper image, but more prone to shake than field stills.

Video In / Out settings

Component Video

- Default: **Off**



If you connected this recorder to your TV using the component video output, set this to **On**, otherwise leave it set to **Off**.

Important

When set to **On**, you cannot set the **AV1 Out** setting to **RGB** (see below).

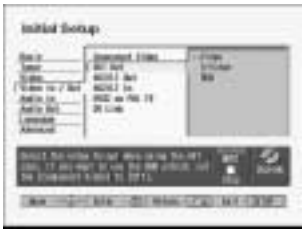
AV1 Out

- Default: **Video**

You only need to make this setting if you connected this recorder to your TV using the AV1 (RGB)-TV SCART-type connector.

Important

If you make a setting here that is incompatible with your TV, the TV may not display any picture at all. If this happens either switch everything off and reconnect to the TV using either the supplied video cable, or an S-Video cable (see **page 15** for more on this), or reset the unit (see **page 108** for how to do this).

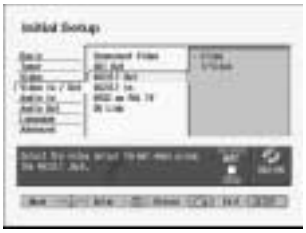


- **Video** – Compatible with all TVs, but lowest quality of the three AV settings.
- **S-Video** – Almost the same quality as RGB, but can give better results if you are using a long SCART cable.
- **RGB** – If your TV is compatible, this setting gives the best picture quality. (The RGB setting is only available when the **Component Video** setting is **Off**)

AV2/L1 Out

- Default: **Video**

You only need to make this setting if you connected this recorder to another component using the AV2/L1 SCART-type connector.



The **AV2/L1** connector can be set to output standard **Video**, or higher quality **S-Video**. Set according to the type of connection you made.

AV2/L1 In

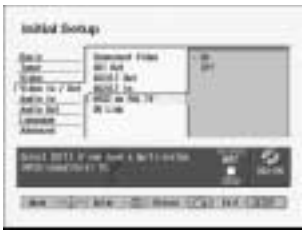
- Default: **Video**

You only need to make this setting if you connected this recorder to another component using the AV2/L1 SCART-type connector.

The **AV2/L1** connector input can be set for standard **Video**, or higher quality **S-Video**. Set according to the type of connection you made.

NTSC on PAL TV

- Default: **On**



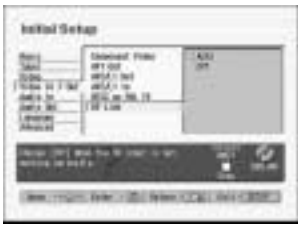
Set this to **On** when playing NTSC discs (from the U.S., for example) on a PAL-only TV.

Note

Many recent PAL TVs are capable of correctly displaying NTSC pictures without the need for this setting. Check the manual that came with your TV if you're not sure whether yours has this feature.

DV Link

- Default: **Auto**



If you have problems with the audio and/or video from a DV camcorder/deck connected to the **DV IN/OUT** jack, try setting this to **Off**.

Note

Even when set to **Off**, some camcorder/deck may not be fully compatible with this recorder when linked using a DV cable.

Audio In settings

Tuner Audio

- Default: **NICAM**

If you want to record the non-NICAM audio in a TV broadcast, select **Regular Audio**, otherwise set to **NICAM**. (When set to NICAM, you can still select Regular Audio using the **AUDIO** button. See **page 34, 45**.)

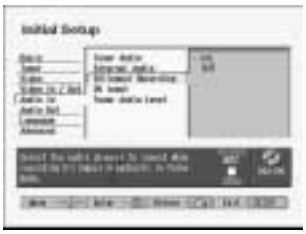
External Audio

- Default: **Stereo**

If the external source is standard stereo, leave set to **Stereo**. If each channel carries a separate soundtrack in a different language, change to **Bilingual**.

Bilingual Recording

- Default: **A/L**



When recording a bilingual source from an external input in Video mode, you can choose to record either the **A/L** (left), or the **B/R** (right) audio channel.

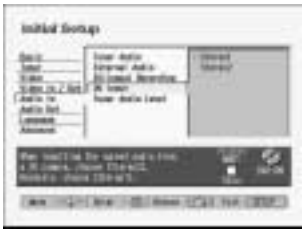
Note

If you're recording in VR mode, both channels will be recorded and you can switch them as you like on playback.

DV Input

- Default: **Stereo1**

You need to set this if you have DV equipment using 32kHz/12-bit sound connected to the front panel **DV IN/OUT** *jack.*

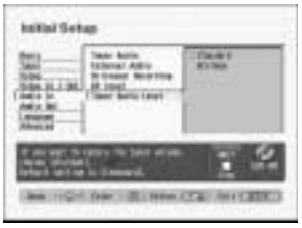


Some DV camcorders have two stereo tracks for audio. One is recorded at the time of shooting; the other is for overdubbing after shooting.

On the **Stereo1** setting, the sound that was recorded while shooting is used. On the **Stereo2** setting, the overdubbed sound is used.

Tuner Audio Level

- Default: **Standard**

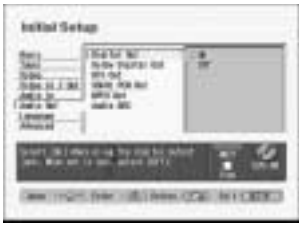


If the audio from the built-in TV tuner seems loud compared to disc playback, set this to **Minimum**, otherwise leave on the **Standard** setting.

Audio Out settings

Digital Out

- Default: **On**



If at any time you need to switch off the digital audio output, set this to **Off**, otherwise leave it **On**. Note that you can't switch on/off the optical and coaxial outputs individually.

Dolby Digital Out

- Default: **Dolby Digital**

See page 31 for more on this setting.

DTS Out

- Default: **Off**

See page 31 for more on this setting.

Important

- If you set to **On** with a non-DTS compatible amplifier, noise will be output when you play a DTS disc.
- When set to **On**, there is no analog audio output when playing a DTS DVD-Video disc.
- When playing a DTS audio CD (even when **DTS Out** is **Off**), noise is output from the analog outputs. *Do not play this through your amplifier and speakers.*
- When playing a DTS audio CD, make sure that **Stereo** is selected using the **AUDIO** button. See **page 52**.

96kHz PCM Out

- Default: **96kHz → 48kHz**

See page 32 for more on this setting.

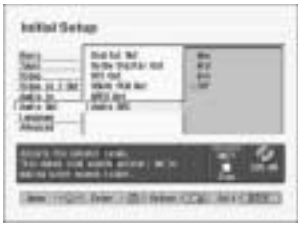
MPEG Out

- Default: **MPEG → PCM**

See page 32 for more on this setting.

Audio DRC

- Default: **Off**



When watching Dolby Digital DVDs at low volume, it's easy to lose low level sounds completely—including some of the dialog. Switching on Audio DRC (Dynamic Range Control) can help by bringing up the low level sounds, while controlling high level peaks.

The **Off** setting leaves the original dynamics intact; **Max** 'squashes' the dynamics the most. Exactly how much difference you can hear between the settings will depend on the material.

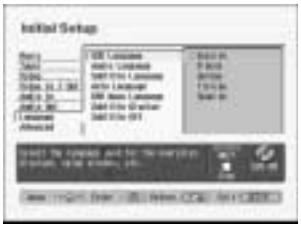
Remember

- Audio DRC is not effective when listening to a disc via the digital output when **Dolby Digital Out** is set to **Dolby Digital**. In this case adjust the dynamic range from your AV amplifier/receiver.

Language settings

OSD Language

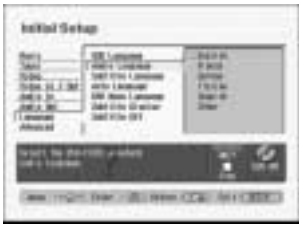
- Default: **English**



Select a language for the recorder's on-screen displays.

Audio Language

- Default: **English**



This setting is your preferred audio language for DVD-Video discs. If the language you specify here is recorded on a disc, the recorder automatically plays the disc in that language (although this depends on the **Auto Language** setting—see **page 87**).

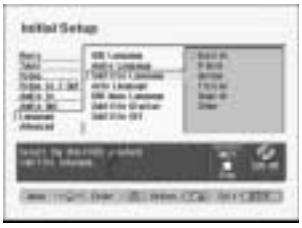
Choose **Other** if you want to specify a language other than the languages shown (see **page 88**).

Tip

You can switch between the languages recorded on a DVD disc any time during playback using the **AUDIO** button. (This does not affect this setting.)

Subtitle Language

- Default: **English**



This setting is your preferred subtitle language for DVD-Video discs. If the language you specify here is recorded on a disc, the recorder automatically plays the disc with those subtitles (although this depends on the **Auto Language** setting—see **page 87**).

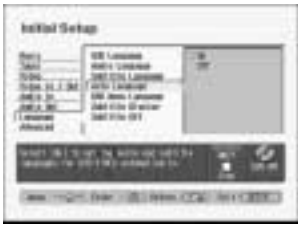
Choose **Other** if you want to specify a language other than the languages shown (see **page 88**).

Tip

You can change or switch off the subtitles on a DVD disc any time during playback using the **SUBTITLE** button. (This does not affect this setting.)

Auto Language

- Default: **On**



When set to **On**, the recorder selects the default audio language on a DVD-Video disc (French dialog for a French movie, for example), and displays subtitles in your preferred subtitle language only if that is set to something different. In other words, movies in your native language won't have any subtitles, while foreign language movies will be shown with subtitles.

Set to **Off** to have the recorder play discs strictly according to your **Audio Language** and **Subtitle Language** settings.

For **Auto Language** to work, the **Audio Language** and **Subtitle Language** settings must be the same—see **page 86**.

Note

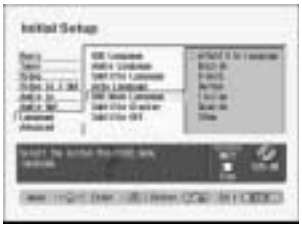
Even when set to **On**, Auto Language may not work with some discs. In this case, set the audio and subtitle languages using the **AUDIO** and **SUBTITLE** buttons.

Tip

You can still switch audio and subtitle languages on playback using the **AUDIO** and **SUBTITLE** buttons.

DVD Menu Language

- Default: **w/Subtitle Language**

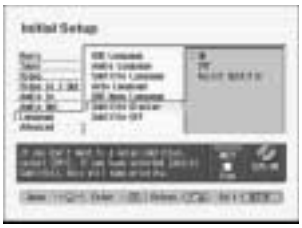


Some multilingual discs have disc menus in several languages. This setting specifies in which language the disc menus should appear. Leave on the default setting for menus to appear in the same language as your **Subtitle Language**—see **page 86**.

Choose **Other** if you want to specify a language other than the languages shown (see **page 88**).

Subtitle Display

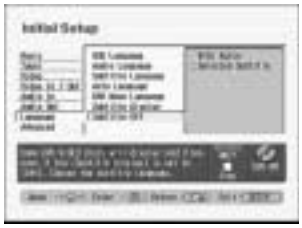
- Default: **On**



When set to **On**, the recorder displays subtitles according to the **Subtitle Language** and **Auto Language** settings. Set to **Off** to switch subtitles off altogether (although see **Subtitle Off** on **page 88** for special cases). Set to **Assist Subtitle** to have the recorder display the extra assistive subtitles recorded on to some DVD discs.

Subtitle Off

- Default: **Selected Subtitle**

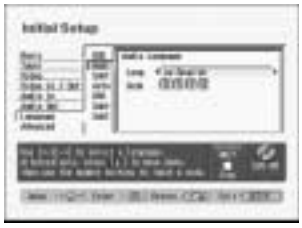


Some discs display subtitles even if the **Subtitle Display** setting (above) is set to **Off**. In this case, you can either have the subtitles displayed in the same language as your preferred audio language (**With Audio**), or in your preferred subtitle language (**Selected Subtitle**). If the **Audio Language** and **Subtitle Language** settings are the same then both of these choices will give the same result.

Selecting 'Other' languages

1 Select 'Other' from the language list.
This option appears in the settings for DVD Menu Language, Audio Language, and Subtitle Language.

2 Select the language you want.



Move the joystick left/right to select a language, or move down and enter a code using the number buttons.

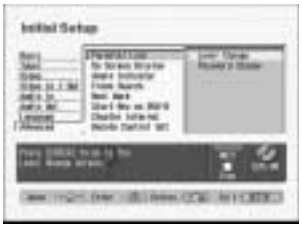
See the language code list on **page 104** for a list of available languages and corresponding codes.

3 Press ENTER to confirm and exit the screen.

Advanced settings

Parental Lock

- Default level: **8**
- Default password: *none*



Some DVD-Video discs feature a Parental Lock level. If the recorder is set to a lower level than the disc, it will require you to enter a password before the disc will play. This gives you some control about what your children watch on your DVD recorder.

Note

Not all discs that you may consider inappropriate for your children use the Parental Lock feature. These discs will always play without requiring the password first.

Registering a new password and setting/changing the parental lock level

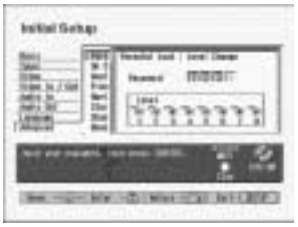
When you change the parental lock level for the first time (or after resetting the recorder), there is no password set. When you are asked to input your password, key in the number you want to use as your password and it will be registered.

Note

- If you forget your password, you can reset all the recorder settings, including the password.
- Some discs contain only certain scenes that are restricted using parental lock. If the password is not entered, the disc will play, but these scenes will be skipped automatically.

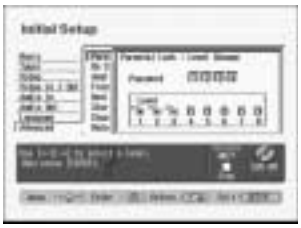
1 Select 'Level Change'.

2 Use the number buttons to input your password, then press ENTER.



- If there is no existing password, the number you input will be registered as your password.

3 Move the joystick left or right to lock/unlock levels.



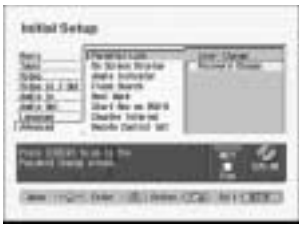
- You can't lock level 1.

4 Press ENTER to set the parental lock level.

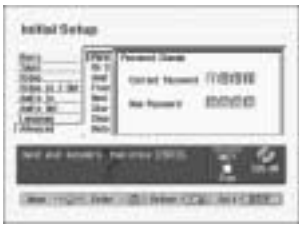
Changing your password

To change your password, confirm your existing password then enter a new one.

1 Select 'Password Change'.

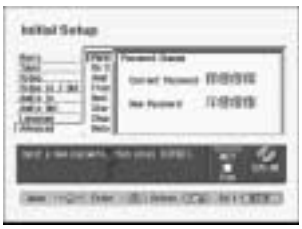


2 Use the number buttons to enter your existing password.



3 Press ENTER.

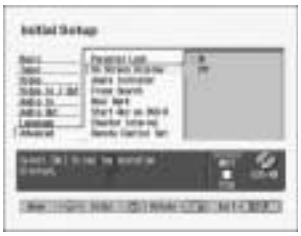
4 Enter a new password.



5 Press ENTER.

On Screen Display

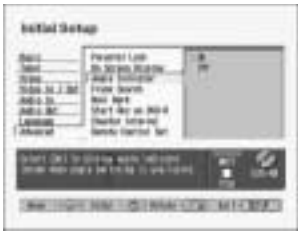
- Default: **On**



On the default setting, the recorder shows on-screen operation displays (**Play**, **Stop** and so on). Change to **Off** to hide these displays.

Angle Indicator

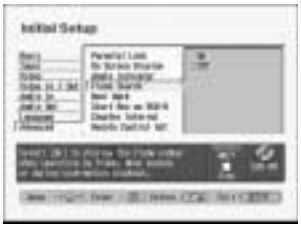
- Default: **On**



On the default setting, when playing a DVD-Video disc that features multi-angle scenes, an icon appears on-screen during the parts of the disc where angle switching is available. Change to **Off** to hide the on-screen indicator.

Frame Search

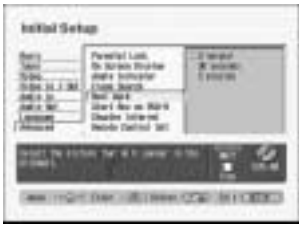
- Default: **Off**



On the default setting, the frame number is not displayed when a DVD disc is paused, and the search by frame number feature is not available. You can switch these features on by changing this setting to **On**.

Navi Mark

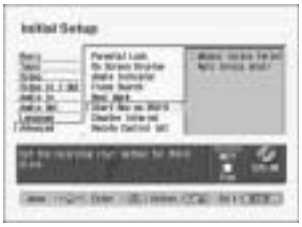
- Default: **0 second**



In the Discnavi, each title is shown with a still frame picture to remind you what it is. This setting lets you decide the default still frame. The default setting of **0 second** takes the first frame of the title, but you can also set it to **30 seconds** or **3 minutes** into the title (if the title is shorter than the setting, then the first frame is used).

Start Rec on DVD-R

- Default: **Manual (press twice)**



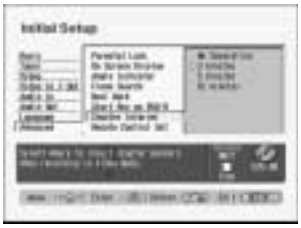
On the default setting, when recording using a DVD-R disc, you need to press the record button twice to actually start recording. You can change this to **Auto (press once)** if you prefer DVD-R recording to work in the same way as recording to DVD-RW.

Note

On the **Auto (press once)** setting, after pressing ● **REC** the recorder takes a few seconds to prepare for recording.

Chapter Interval

- Default: **3 minutes**



When recording in Video mode, chapter markers are put in every three minutes on the default setting. You can change this interval to **5 minutes** or **10 minutes**, or switch off automatic chapter marking altogether with the **No Separation** setting.

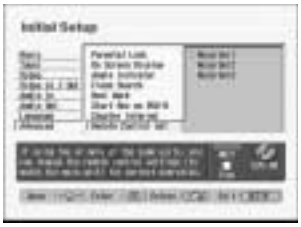
Note

The times for chapter marks are approximate.

Remote Control Set

- Default: **Recorder1**

You only need to set this if you are using more than one Pioneer DVD recorder in the same room.

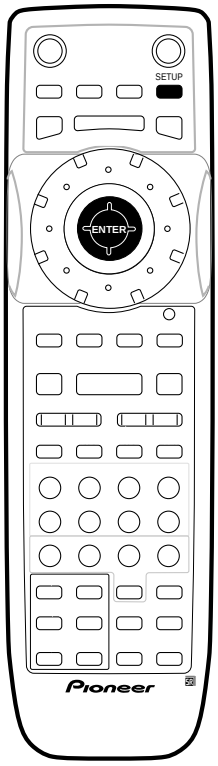


So that each remote control operates only its own recorder, make this setting different for each recorder and remote in the room.

There are three different recorder IDs. When set to **Recorder2** or **Recorder3**, the remote control mode is shown in the front panel display.

Note that as soon as you change the recorder ID, the remote becomes inoperative until you change the remote to the same ID.

To set the remote, press and hold ↶ **RETURN** and a number button (**1**, **2** or **3**) until the **JOG MODE** indicator on the remote lights.



Using the Disc Setup menu

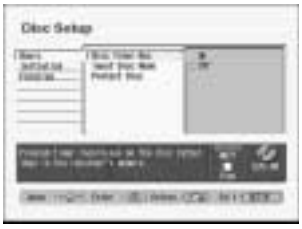
The Disc Setup menu is where you can set various disc options, such as disc format and disc timer recording, and disc lock.

1 **Press SETUP and select 'Disc Setup' to display the Disc Setup menu.**

Basic settings

Disc Timer Recording

- Default: **Off**



Set to **On** to enable disc timer recording for the disc loaded. Set to **Off** to disable.

Using disc timer recording is explained on **page 62-63**.

Input Disc Name

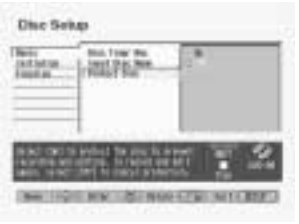
- Default: *n/a*

Use this to enter a name for the disc. This name appears when you load the disc and when you display disc information on-screen.

- The disc name can be up to 64 characters long for VR mode discs, or 24 for Video mode discs.
- For discs formatted on a different DVD recorder, you will see only a limited character set.
- See also **page 70**.

Protect Disc

- Default: **Off**



Set to **On** to prevent accidental recording, editing or erasing of the disc loaded. If you need to unlock the disc to make edits, select **Off**.

Important

A protected disc can still be initialized (which will completely erase the disc).

Initialize settings

VR Mode

DVD-RW only

- Default: *n/a*

Select **Start** to format the DVD-RW disc loaded for VR mode recording.

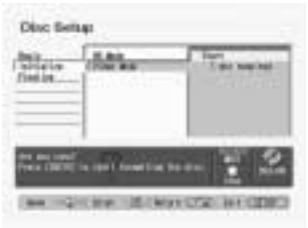
Important

Formatting the disc will completely erase the contents of the disc.

Video Mode

DVD-RW only

- Default: *n/a*



Select **Start** to format the DVD-RW disc loaded for Video mode recording.

Important

Formatting the disc will completely erase the contents of the disc.

Finalize settings

Finalize

- Default: *n/a*

Select **Start** to finalize the disc loaded. See **page 46** for more information.

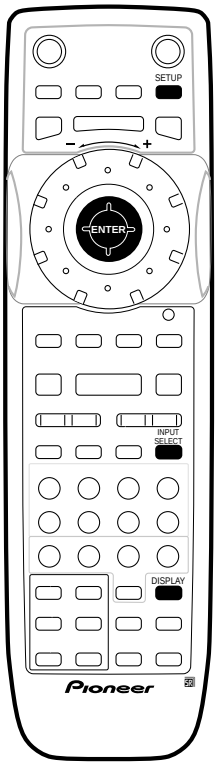
Undo Finalize

- Default: *n/a*

If you want to edit or record more material on a VR mode DVD-RW disc that has been finalized on another DVD recorder, you need to undo the finalization first.

Select **Start** to begin removing the finalization.

- You cannot use this function for DVD-RW discs that were finalized using this recorder.
- A VR mode DVD-RW disc finalized on this recorder can still be recorded and edited even after finalization.



Using the Video Adjust menu

Using the Video Adjust menu you can setup the picture quality for the built-in tuner and external inputs (excluding the DV input), for disc playback, and for recording.

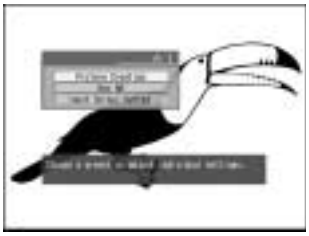
Setting the picture quality for TV and external inputs

Picture Creation lets you choose a set of picture quality settings for the built-in TV tuner and for each external input. There are several preset settings that suit various sources, or you can create up to three of your own sets.

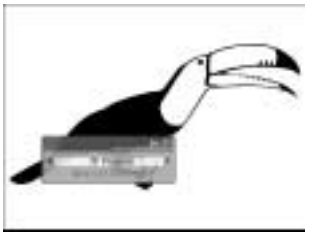
Choosing a preset

1 **Make sure that the recorder is stopped, then press SETUP and select 'Video Adjust' from the menu.**

2 **Press ENTER to select 'Picture Creation'.**



3 **Move the joystick left or right to change the preset.**



- Use the **INPUT SELECT** to switch between the built-in TV tuner and the external inputs.

There are 6 presets available:

- **TV Program** – suitable for general TV broadcasts
- **VCR** – suitable for video cassettes
- **LDP** – suitable for Laserdiscs
- **Memory1** – user preset 1
- **Memory2** – user preset 2
- **Memory3** – user preset 3

You can press **DISPLAY** to see the individual settings for the current preset.

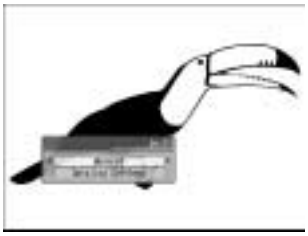
4 **Press ENTER to select the preset.**

Creating your own set

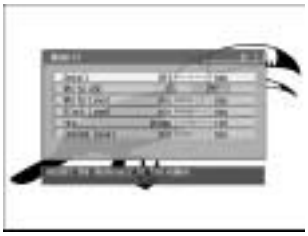
There are three user presets in which you can save your own set of picture quality settings.

1 Follow steps 1 to 3 above and select one of the user presets (Memory 1, 2 or 3).

2 Move the cursor down and select 'Detailed Settings'.



3 Select the picture quality setting you want to adjust.



There are 6 settings available to adjust:

- **Detail** – Adjusts how sharp edges appear
- **White AGC** – Turn on for automatic white level adjustment
- **White Level** – Adjusts the intensity of white
- **Black Level** – Adjusts the intensity of black
- **Hue** – Adjusts overall balance between red and green
- **Chroma Level** – Adjusts how rich the colours appear

Tip

To see more of the picture as you adjust different settings, press **ENTER** after selecting the setting you want to adjust.

4 Move the joystick left/right to adjust the currently selected picture quality setting.

5 When you have all the settings as you want them, press SETUP to exit.

You can now use the preset for any other input or the built-in TV tuner.

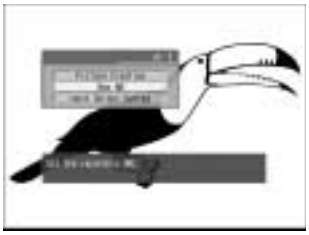
Setting the noise reduction for recording

You can make settings for both brightness and colour noise reduction. These are designed to improve the recorded picture quality.

Using the Preview feature, you can see how your recording will look on various playback picture settings.

1 Make sure that the recorder is stopped, then press SETUP and select 'Video Adjust' from the menu.

2 Select 'Rec NR'.

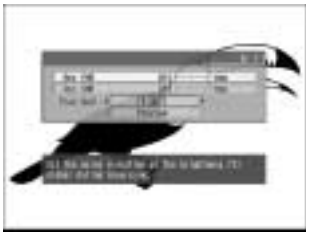


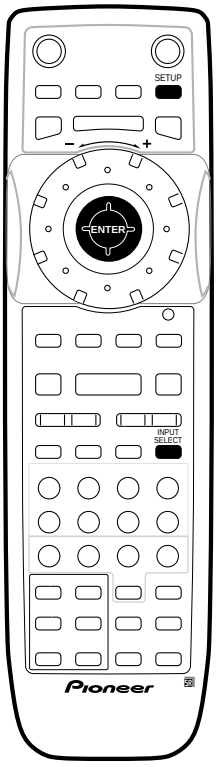
3 Move the joystick up/down to select 'Rec YNR' or 'Rec CNR'.

Rec YNR is the noise reduction applied to the brightness component of the video signal.

Rec CNR is the noise reduction applied to the colour component of the video signal.

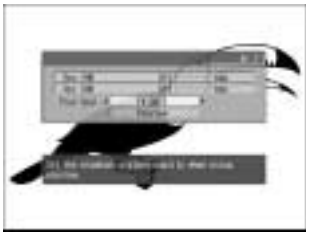
- Use the **INPUT SELECT** button to switch between the built-in TV tuner and the external inputs (you cannot set the recording NR for the DV input).



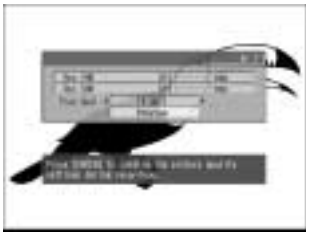


4 **Move the joystick left/right to adjust.**

5 **To see a preview of your settings, move down to 'Play Qual.' and select a playback preset.**



6 **Move down to 'Preview' and press ENTER to see the preview.**



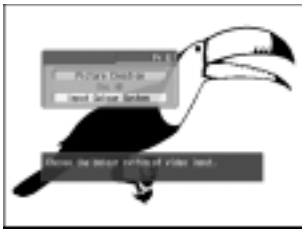
- Press **ENTER** to return to the settings screen.

Setting the input colour system

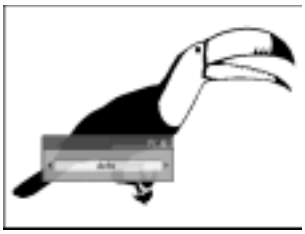
On the default setting, the recorder automatically detects whether the video signal from the built-in tuner or from one of the external inputs is PAL or SECAM. You may, however, occasionally need to set it manually if the picture is not displayed properly.

1 **Make sure that the recorder is stopped, then press SETUP and select 'Video Adjust' from the menu.**

2 **Select 'Input Colour System'.**



3 **Move the joystick left/right to change the setting.**



- Use the **INPUT SELECT** button to switch between the built-in TV tuner and the external inputs.

There are 3 settings:

- **AUTO**
- **PAL**
- **SECAM**

4 **Press ENTER to make the setting.**

Setting the picture quality for disc playback

This setting determines how the picture will look when playing discs.

Choosing a preset

1 With a disc playing (or paused), press SETUP and select 'Video Adjust' from the menu.

2 Move the joystick left/right to change the setting.

There are 6 presets available:

- **TV(CRT)** – suitable for standard cathode-ray tube TVs
- **PDP** – suitable for plasma display screens
- **Professional** – suitable for professional monitors
- **Memory1** – user preset 1
- **Memory2** – user preset 2
- **Memory3** – user preset 3

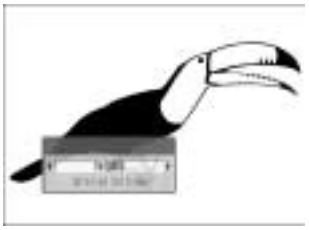
3 Press ENTER to select the preset.

Creating your own set

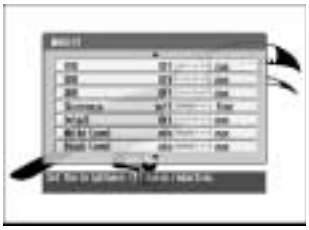
There are three user presets in which you can save your own set of picture quality settings for disc playback.

1 Follow steps 1 and 2 above and select one of the user presets (Memory 1, 2 or 3).

2 Move the cursor down and select 'Detailed Settings'.



3 Select the picture quality setting you want to adjust.



There are 10 settings available to adjust:

- **YNR** – Adjusts the amount of noise reduction (NR) applied to the Y (brightness) component
- **CNR** – Adjusts the amount of noise reduction (NR) applied to the C (colour) component
- **QNR** – Adjusts the amount of noise reduction (NR) applied to the mosquito noise (video artifacts on the edge of the image resulting from MPEG compression) and the black noise.
- **Sharpness** – Adjusts the sharpness of the picture
- **Detail** – Adjusts how sharp edges appear
- **White Level** – Adjusts the intensity of white
- **Black Level** – Adjusts the intensity of black
- **Black Setup** – Corrects the standard reference black level
- **Chroma Level** – Adjusts how rich the colours appear
- **Chroma Delay** – Compensates for misalignment of the Y (brightness) and C (colour) components

Tip

To see more of the picture as you adjust different settings, press **ENTER** after selecting the setting you want to adjust.

4 Move the joystick left/right to adjust the currently selected picture quality setting.

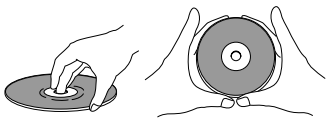
5 When you have all the settings as you want them, press SETUP to exit.

On-screen displays and recorder displays

Message	Explanation/Action
• **Initializing disc. Please wait a moment.**	When you load a blank DVD-RW disc, the recorder automatically initializes it.
• **XX seconds before recording stops. Please wait a moment.**	In Video mode, recording is in blocks of about 30 seconds. After you stop recording, recording will continue until the end of the current block.
• **Incompatible region number.**	The disc loaded has an incompatible region number for the recorder and so will not play.
• **Cannot record any more titles.** • **You cannot do this edit with the currently loaded disc.** • **Cannot add any more chapter marks.**	The disc control data limit has been reached, or the maximum number of chapters and/or titles has been reached. Erase titles/ chapters or combine chapters.
• **You cannot record on this disc. Undo the finalization.**	The disc was finalized on a non-Pioneer DVD recorder. Undo the finalization in order to record/edit.
• **Cannot play because the disc is incompatible.** • **You cannot record on this disc.** • **Cannot read the CPRM information.** • **Cannot prepare for recording.** • **Could not record the information to the disc.** • **Cannot edit.** • **Could not initialize disc.** • **Could not finalize successfully.** • **Could not undo finalization successfully.** • **Could not cancel the disc protection setting successfully.**	The disc may be dirty or damaged. Take out the disc, clean it and retry. If the error persists, use a new disc. If the error appears even with a new disc, please consult a Pioneer Service Center.
• **Cannot record because the disc is not CPRM compatible.** • **This source cannot be recorded with the Video mode.**	The video source is copy-once protected. Use a VR mode DVD-RW disc with CPRM for recording.
• **This source is copy-protected.**	The video source is copy-protected and cannot be recorded.
• **Incorrect CPRM information.**	The recorder could not read the CPRM information. The recorder may be damaged—please consult a Pioneer Service Center.
• **No DV input.** • **Cannot preview because there is no DV input.**	No signal was detected aty appear if a blank section of DV tape is playing in the connected camcorder.
• **When recording the DV input, the recording level is automatically set to 9.** • **The recording level has been temporarily set to 9 for the DV input.**	Recording levels 1-8 are not available when recording from the DV input.
• **Repairing the disc. Please wait a moment.**	During recording, the power was cut. This display appears when the power is restored.
• **Could not repair the disc.**	The recorder was unable to repair the disc after a power cut. The contents of the recording will be lost.

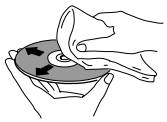
Handling discs

When holding discs of any type, take care not to leave fingerprints, dirt or scratches on the disc surface. Hold the disc by its edge or by the center hole and edge.



Damaged or dirty discs can affect playback and recording performance. Take care also not to scratch the label side of the disc. Although not as fragile as the recorded side, scratches can still result in a disc becoming unusable.

Should a disc become marked with fingerprints, dust, etc., clean using a soft, dry cloth, wiping the disc lightly from the center to the outside edge as shown in the diagram below.



Wipe lightly from the center of the disc using straight strokes.

Don't wipe the disc surface using circular strokes.

If necessary, use a cloth soaked in alcohol, or a commercially available CD/DVD cleaning kit to clean a disc more thoroughly. Never use benzine, thinner or other cleaning agents, including products designed for cleaning vinyl records.

Storing discs

Although CDs and DVD discs are more durable than vinyl records, you should still take care to handle and store discs correctly. When you're not using a disc, return it to its case and store upright. Avoid leaving discs in excessively cold, humid, or hot environments (including under direct sunlight).

Don't glue paper or put stickers onto the disc, or use a pencil, ball-point pen or other sharp-tipped writing instrument. These could all damage the disc.

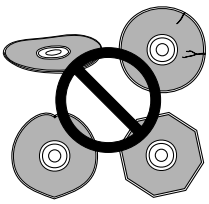
For more detailed care information see the instructions that come with discs.

Do not load more than one disc into the player.

Discs to avoid

Discs spin at high speed inside the recorder. If you can see that a disc is cracked, chipped, warped, or otherwise damaged, don't risk using it in your recorder—you could end up damaging the unit.

This unit is designed for use with conventional, fully circular discs only. Use of shaped discs is not recommended for this product. Pioneer disclaims all liability arising in connection with the use of shaped discs.



Cleaning the pickup lens

The DVD recorder's lens should not become dirty in normal use, but if for some reason it should malfunction due to dust or dirt, consult your nearest Pioneer-authorized service center. Although lens cleaners for CD players are commercially available, we do not recommend using them since some may damage the lens.

Problems with condensation

Condensation may form inside the recorder if it is brought into a warm room from outside, or if the temperature of the room rises quickly. Although the condensation won't damage the recorder, it may temporarily impair its performance. For this reason you should leave it to adjust to the warmer temperature for about an hour before switching on and using.

Hints on installation

We want you to enjoy using this unit for years to come, so please bear in mind the following points when choosing a suitable location for it:

Do...

✓ Use in a well-ventilated room.

✓ Place on a solid, flat, level surface, such as a table, shelf or stereo rack.

Don't...

✗ Use in a place exposed to high temperatures or humidity, including near radiators and other heat-generating appliances.

✗ Place on a window sill or other place where the recorder will be exposed to direct sunlight.

✗ Use in a dusty or damp environment or in a room where it will be exposed to excessive cigarette smoke.

✗ Place directly on top of an amplifier, or other component in your stereo system that becomes hot in use.

✗ Use near a television or monitor as you may experience interference—especially if the television uses an indoor antenna.

✗ Use in a kitchen or other room where the recorder may be exposed to smoke or steam.

✗ Use on a thick rug or carpet, or cover with cloth—this may prevent proper cooling of the unit.

✗ Place on an unstable surface, or one that is not large enough to support all four of the unit's feet.

Moving the recorder

If you need to move the recorder, first remove the disc, if there's one loaded, and close the disc tray. Next, press ⏻ **STANDBY/ON** to switch the power to standby, checking that the **POWER OFF** indication in the display goes off. Lastly, disconnect the power cord. Never lift or move the unit during playback or recording—discs rotate at a high speed and may be damaged.

Glossary

Analog audio

An electrical signal that directly represents sound. Compare this to digital audio which can be an electrical signal, but is an indirect representation of sound. See also *Digital audio*.

Aspect ratio

The width of a TV screen relative to its height. Conventional TVs are 4:3 (in other words, the screen is almost square); widescreen models are 16:9 (the screen is almost twice as wide as it is high).

Chapter

Just as a book is split up into several chapters, a title on a DVD disc is usually divided into chapters. See also *Title*.

Digital audio

An indirect representation of sound by numbers. During recording, the sound is measured at discrete intervals (44,100 times a second for CD audio) by an analog-to-digital converter, generating a stream of numbers. On playback, a digital-to-analog converter generates an analog signal based on these numbers. See also *Sampling frequency* and *Analog audio*.

Dolby Digital

With multichannel audio, this high quality surround system is used in many movie theaters around the world.

DTS

DTS stands for Digital Theater System. DTS is a surround system different from Dolby Digital that has become a popular surround sound format for movies.

Dynamic range
The difference between the quietest and loudest sounds possible in an audio signal (without distorting or getting lost in noise). Dolby Digital and DTS soundtracks are capable of a very wide dynamic range, delivering dramatic cinema-like effects.

MPEG audio
MPEG Multichannel

An audio format used on Video CDs and some DVD discs. This unit can convert MPEG audio to PCM format for wider compatibility with digital recorders and AV amplifiers. See also *PCM*.

MPEG video
The video format used for Video CDs and DVDs. Video CD uses the older MPEG-1 standard, while DVD uses the newer and much better quality MPEG-2 standard.

Optical digital output
A jack that outputs digital audio in the form of light pulses. Connect components with optical digital jacks using a special optical cord, available from specialist audio dealers.

PCM (Pulse Code Modulation)
The most common system of encoding digital audio, found on CDs and DAT. Excellent quality, but requires a lot of data compared to formats such as Dolby Digital and MPEG audio. For compatibility with digital audio recorders (CD, MD and DAT) and AV amplifiers with digital inputs, this unit can convert Dolby Digital and MPEG audio to PCM. See also *Digital audio*.

PBC (PlayBack Control) (Video CD only)
A system of navigating a Video CD through on-screen menus recorded onto the disc. Especially good for discs that you would normally not watch from beginning to end all at once—karaoke discs, for example.

Regions (DVD only)
Regions associate discs and players with particular areas of the world. This unit will only play discs that have compatible region codes. You can find the region code of your unit by looking on the rear panel. Some discs are compatible with more than one region (or all regions).

Sampling frequency
The rate at which sound is measured to be turned into digital audio data. The higher the rate, the better the sound quality, but the more digital information is generated. Standard CD audio has a sampling frequency of 44.1kHz, which means 44,100 samples (measurements) per second. See also *Digital audio*.

Title (DVD only)
A collection of chapters on a DVD disc. See also *Chapter*.

Track
Audio CDs and Video CDs use tracks to divide up the content of a disc. The DVD equivalent is called a chapter. See also *Chapter*.

Problem	Remedy
General	
Recorder won't switch on	• Make sure the recorder is plugged in (**page 19**)
The disc is automatically ejected after closing the disc tray	• Check that the disc is loaded properly (aligned in disc tray and label-side up) • Take out the disc and clean it (**page 99**) • Check that the disc has a region code compatible with the recorder (**page 10**)
No picture	• Check that everything is connected properly (**chapter 2**) • Check that the connected TV and/or the AV receiver is set to the correct input
Can't play a disc	• Take out the disc and clean it (**page 99**) • Check that the disc is loaded properly (aligned in disc tray and label-side up) • Check that the disc has a region code compatible with the recorder (**page 10**) • There may be condensation in the recorder. Leave the recorder for an hour or so.
Settings have disappeared	• If the recorder is unplugged (or there is a power failure) while the recorder is on, all the settings will be lost • Make sure that you switch the recorder into standby before unplugging the power cord
Screen goes blank and operation buttons don't work	• Press ■ **STOP** then restart playback
mark appears on screen	• The operation you want to perform is prohibited by the disc. This is not a malfunction
mark appears on screen	• The operation you want to perform is prohibited by the recorder. This is not a malfunction
Remote control does not work	• If you connected this recorder to other Pioneer products using the **CONTROL IN/OUT** jacks, point the remote control at the other component to use (**page 12**) • Set the remote control to the same ID number as the recorder (**page 91**) (When the batteries run down, the remote mode is automtically reset to 1) • Use the remote within its operating range (**page 8**) • Replace the batteries (**page 8**)
No sound or sound is distorted	• Make sure that the volume of the amplifier/receiver or TV is not set to minimum • There is no sound when the picture is paused, or during scanning (even forwards at regular play speed) or slow motion play. Press ► **PLAY** to resume regular playback • DTS discs can only be played if this recorder is connected to a DTS decoder or DTS compatible amplifier/receiver. If you have connected a suitable decoder, also make sure that the **Recorder Setup** > **Audio** > **DTS Output** setting is **On**. • Some 96kHz discs do not output audio through the digital outs. In this case, switch the input of your amplifier/receiver to analog • Check the SCART and/or audio cable connections (**page 14–19**) • Check that the cable plugs are clean
The picture from the external input is distorted	• If the video signal from the external component is copy-protected, you cannot connect via this recorder. Connect the component directly to your TV

Problem	
General	
Screen is stretched vertically or horizontally	• This recorder's input switches into wide mode automatically according to the input signal. When the unit connected is not compatible with ID-1, set the connected component to output 4:3 aspect ratio (standard) • Make sure that the **TV Screen Size** (**page 30**) setting is correct for your TV. • Check the aspect ratio settings of your TV
Can't play a disc recorded using this recorder on another player	• If the disc was recorded in Video mode, make sure that it's finalized (**page 46**) • Some players will not play even a finalized disc recorded in Video mode • If the disc was recorded in VR mode, the other player must be RW compatible in order to play it (**page 20**) • Discs recorded with copy-once material cannot be played on other players (**page 42**)
During playback the picture is dark or distorted	• When a copy-protected disc is played via a VCR, the picture will not display correctly. Connect the recorder directly to your TV
Can't control your TV using this remote control	• Check that you entered the correct code for your make of TV (**page 32**) • It may not be possible to control your TV using this remote control
Cannot record or did not record successfully	• Check that there is some remaining blank space on the disc (**page 49**) • Check that the number of titles on the disc hasn't already reached 99 (for a VR disc, Original titles only), or the number of chapters hasn't reached 999 (for a VR disc, Original chapters only). This is the maximum number of titles and chapters a disc can hold • Check that the source you are trying to record is not copy protected • For a VR formatted disc, check that the disc isn't protected (**page 92**) • When setting the recording channel, make sure you set the recorder's built-in TV tuner, not the TV's own tuner (**page 33**) • When recording to a Video mode disc, programs that are copy-once protected cannot be recorded. Use a VR mode formatted disc for copy-once material (**page 42**) • Check that there wasn't a power outage during the timer recording • Two timer programs may have overlapped
Cannot use time search with frame search or frame number is not	• Set **Frame Search** to **On** (**page 90**) • Frame search can only be used with DVD discs
DV IN/OUT jack problems	
No sound and/or picture from a DV camcorder connected to the DV IN/ OUT jack	• Check the connection • Disconnect the cable, then connect again • You cannot record a source that is copy-protected or copy-once protected • Try switching the **DV Link** to **Off** (**page 84**) • Try switching the **DV Input** (**page 85**) • Try switching off both the camcorder and this recorder, then switching both back on • Check that the audio you're recording is 32 or 48kHz. This recorder cannot record audio with a sampling rate of 44.1kHz
No sound and/or picture when recording from this recorder to a DV camcorder connected to the DV IN/ OUT jack	• Check the connection • Disconnect the cable, then connect again • Try stopping playback of this recorder, then restarting • Make sure that only one DV camcorder is connected to this recorder at a time • Try switching off both the camcorder and this recorder, then switching both back on • You can't record the audio/video from CDs, Video CDs, the built-in TV tuner, or from one of the external inputs, through the DV jack • You cannot record copy-protected or copy-once material through the **DV IN/ OUT** jack
Can't control the connected camcorder using this remote control	• Some camcorders are not compatible with this remote

Language code list

Language	Code	Language	Code	Language	Code
Japanese (ja)	1001	Guarani (gn)	0714	Pashto, Pushto (ps)	1619
English (en)	0514	Gujarati (gu)	0721	Quechua (qu)	1721
French (fr)	0618	Hausa (ha)	0801	Rhaeto-Romance (rm)	1813
German (de)	0405	Hindi (hi)	0809	Kirundi (rn)	1814
Italian (it)	0920	Croatian (hr)	0818	Romanian (ro)	1815
Spanish (es)	0519	Hungarian (hu)	0821	Kinyarwanda (rw)	1823
Chinese (zh)	2608	Armenian (hy)	0825	Sanskrit (sa)	1901
Dutch (nl)	1412	Interlingua (ia)	0901	Sindhi (sd)	1904
Portuguese (pt)	1620	Interlingue (ie)	0905	Sangho (sg)	1907
Swedish (sv)	1922	Inupiak (ik)	0911	Serbo-Croatian (sh)	1908
Russian (ru)	1821	Indonesian (in)	0914	Sinhalese (si)	1909
Korean (ko)	1115	Icelandic (is)	0919	Slovak (sk)	1911
Greek (el)	0512	Hebrew (iw)	0923	Slovenian (sl)	1912
Afar (aa)	0101	Yiddish (ji)	1009	Samoan (sm)	1913
Abkhazian (ab)	0102	Javanese (jw)	1023	Shona (sn)	1914
Afrikaans (af)	0106	Georgian (ka)	1101	Somali (so)	1915
Amharic (am)	0113	Kazakh (kk)	1111	Albanian (sq)	1917
Arabic (ar)	0118	Greenlandic (kl)	1112	Serbian (sr)	1918
Assamese (as)	0119	Cambodian (km)	1113	Siswati (ss)	1919
Aymara (ay)	0125	Kannada (kn)	1114	Sesotho (st)	1920
Azerbaijani (az)	0126	Kashmiri (ks)	1119	Sundanese (su)	1921
Bashkir (ba)	0201	Kurdish (ku)	1121	Swahili (sw)	1923
Byelorussian (be)	0205	Kirghiz (ky)	1125	Tamil (ta)	2001
Bulgarian (bg)	0207	Latin (la)	1201	Telugu (te)	2005
Bihari (bh)	0208	Lingala (ln)	1214	Tajik (tg)	2007
Bislama (bi)	0209	Laothian (lo)	1215	Thai (th)	2008
Bengali (bn)	0214	Lithuanian (lt)	1220	Tigrinya (ti)	2009
Tibetan (bo)	0215	Latvian (lv)	1222	Turkmen (tk)	2011
Breton (br)	0218	Malagasy (mg)	1307	Tagalog (tl)	2012
Catalan (ca)	0301	Maori (mi)	1309	Setswana (tn)	2014
Corsican (co)	0315	Macedonian (mk)	1311	Tonga (to)	2015
Czech (cs)	0319	Malayalam (ml)	1312	Turkish (tr)	2018
Welsh (cy)	0325	Mongolian (mn)	1314	Tsonga (ts)	2019
Danish (da)	0401	Moldavian (mo)	1315	Tatar (tt)	2020
Bhutani (dz)	0426	Marathi (mr)	1318	Twi (tw)	2023
Esperanto (eo)	0515	Malay (ms)	1319	Ukrainian (uk)	2111
Estonian (et)	0520	Maltese (mt)	1320	Urdu (ur)	2118
Basque (eu)	0521	Burmese (my)	1325	Uzbek (uz)	2126
Persian (fa)	0601	Nauru (na)	1401	Vietnamese (vi)	2209
Finnish (fi)	0609	Nepali (ne)	1405	Volapük (vo)	2215
Fiji (fj)	0610	Norwegian (no)	1415	Wolof (wo)	2315
Faroese (fo)	0615	Occitan (oc)	1503	Xhosa (xh)	2408
Frisian (fy)	0625	Oromo (om)	1513	Yoruba (yo)	2515
Irish (ga)	0701	Oriya (or)	1518	Zulu (zu)	2621
Scots-Gaelic (gd)	0704	Panjabi (pa)	1601		
Galician (gl)	0712	Polish (pl)	1612		

Screen sizes and disc formats

When viewing on a standard TV or monitor

Screen format of disc	Setting	Appearance
16:9	**4:3 (Letter Box)**	The program is shown in widescreen with black bars at the top and bottom of the screen.
	4:3 (Pan & Scan)	The sides of the program are cropped so that the picture fills the whole screen.
	16:9 (Wide)	The program appears squashed. Set to either 4:3 (Letter Box) or 4:3 (Pan & Scan).
4:3	**4:3 (Letter Box)** **4:3 (Pan & Scan)**	The program is presented correctly on any setting, including 16:9 (Wide).

When viewing on a widescreen TV or monitor

Screen format of disc	Setting	Appearance
16:9	**16:9 (Wide)**	The program is presented in widescreen.
4:3	**16:9 (Wide)**	Your TV will determine how the picture is presented—check the manual that came with the TV for details.

Specifications

General

System ..... DVD-Video, DVD-R/RW, Video-CD, CD
Power requirements ..... 220–240 V, 50/60 Hz
Power consumption ..... 60 W
Power consumption in standby mode ..... 1.5 W (FL off)
Weight ..... 7.0 kg
Dimensions ..... 420 (W) x 107 (H) x 373.5 (D) mm
Operating temperature ..... +5˚C to +35˚C
Operating humidity ..... 5% to 85% (no condensation)
TV system ..... PAL/SECAM (tuner only)

Recording

Recording format ..... DVD VideoRecording
DVD-VIDEO
Recordable discs ..... DVD-ReRecordable (DVD-RW)
DVD-Recordable (DVD-R)

Video recording format
Sampling frequency 13.5MHz
Compression format ..... MPEG

Audio recording format
Sampling frequency 48kHz
Compression format ..... Dolby Digital

Recording time
DVD-RW (VR mode)
Standard (SP) ..... Approx. 2 hours
Manual rate (MN) ..... Approx. 1–6 hours
DVD-R/RW (Video mode)
V1 ..... Approx. 1 hour
V2 ..... Approx. 2 hours

Tuner

Receivable channels

Timer

Programs ..... 1 month/8 programs
Clock ..... Quartz lock (24-hour digital display)
Power off memory ..... Approx. 48 hours

Input/Output

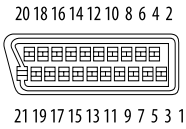
ANTENNA input/output terminal ..... VHF/UHF set
75 Ω (coaxial)
Video input ..... Input 1,2 (rear), 3 (front)
Input level ..... 1.0 Vp-p (75 Ω)
Jacks ..... AV connector 2 (Input 1), RCA jack (Input 2)
Video output ..... Output 1,2
Output level ..... 1.0 Vp-p (75 Ω)
Jacks ..... AV connector (Output 1), RCA jack (Output 2)
S-Video input ..... Input 1,2 (rear), 3 (front)
Y (luminance) - Input level ..... 1 Vp-p (75 Ω)
C (colour) - Input level ..... 300 mVp-p (75 Ω)
Jacks ..... AV connector 2 (Input 1) ,4 pin mini DIN (Input 2,3)
S-Video output ..... Output 1,2
Y (luminance) - Output level ..... 1.0 Vp-p (75 Ω)
C (colour) - Output level ..... 300 mVp-p (75 Ω)
Jacks .. AV connector 1 (Output 1), 4 pin mini DIN (Output 2)
Component video output
Output level ..... Y: 1.0 Vp-p (75 Ω)
P_B, P_R: 0.7 Vp-p (75 Ω)
Jacks ..... RCA jacks
Audio input ..... Input 1,2 (rear), 3 (front) L/R
Input level
During audio input ..... 2V rms
(Input impedence: more than 22kΩ)
Jacks ..... AV connector 2 (Input 1), RCA jacks (Inputs 2,3)
Audio output ..... Output 1,2 L/R
During audio output ..... 2V rms
(Output impedence: less than 1.5kΩ)
Jacks ..... AV connector 1 (output 1), RCA jacks (output 2)

	SECAM L		PAL B/G		PAL I	
	Frequency	**Channel**	**Frequency**	**Channel**	**Frequency**	**Channel**
VHF (low)	49 - 65 MHz	2 - 4	47 - 89 MHz	E2 - E4 X - Z	44 - 89 MHz	A - C X - Z
VHF (high)	104 - 300 MHz	5 - 10 B - Q	104 - 300 MHz	E5 - E12 S1 - S20 M1 - M10 U1 - U10	104 - 300 MHz	D - J 11, 13 S1 - S20
Hyper	300 - 470 MHz	S21 - S41	302 - 470 MHz	S21 - S41	302 - 470 MHz	S21 - S41
UHF	470 - 862 MHz	21 - 69	470 - 862 MHz	E21 - E69	470 - 862 MHz	E21 - E69

STEREO
B/G - A2
I - NICAM
L - NICAM
B/G - NICAM

AV Connectors (21-pin connector assignment)

AV connector input/output ..... 21-pin connector
This connector provides the video and audio signals for connection to a compatible colour TV or monitor.



PIN no.

1 ..... Audio 2/R out
11 ..... G* out
3 ..... Audio 1/L out
15 ..... R* or C* out
4 ..... GND
17 ..... GND
7 ..... B* out
19 ..... Video out or Y* out
8 ..... Status
21 ..... GND

* AV CONNECTOR 1 (RGB)-TV is output

Control input/output ..... Mini jack 1 each
DV input/output ..... 4 pin (i.LINK/IEEE 1394 standard)

Supplied accessories

Remote control 1
Dry cell batteries (AA/R6P) 2
SCART cable 1
Stereo audio cable (red/white) 1
Video cable (yellow) 1
RF antenna cable 1
Power cable 1
DVD-RW disc 1
Operating Instructions 1
Warranty card 1

Note: The specifications and design of this product are subject to change without notice, due to improvement.

Resetting the recorder

If you need to, you can reset the recorder to all its factory settings.

1 **Make sure that the recorder is on.**

2 **Press and hold ■ STOP and press ⏻ STANDBY/ON.**
The recorder turns off with all settings reset.

Published by Pioneer Corporation.
Copyright © 2001 Pioneer Corporation.
All rights reserved.

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan Tel: 03-3494-1111
PIONEER ELECTRONICS [USA] INC. P.O. BOX 1540, Long Beach, California 90801-1540, U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway, Markham, Ontario L3R OP2, Canada
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, B-9120 Melsele, Belgium TEL: 03/570.05.11
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia, TEL: [03] 9586-6300
PIONEER ELECTRONICS DE MEXICO S.A. DE C.V. San Lorenzo 1009 3er Piso Desp. 302 Col. Del Valle Mexico D.F. C.P. 03100 TEL: 55-5688-5290

<TSWZF/01L00001>

Printed in Japan <VRB1281-A>